

# SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1918.

## No. 18, Original.

STATE OF MINNESOTA, COMPLAINANT,

vs.

STATE OF WISCONSIN.

### IN EQUITY.

#### INDEX.

	Original.	Print
Caption .....	1	1
Minute entry of motion for leave to file bill of complaint.....	2	1
Motion for leave to file bill of complaint.....	3	1
Order granting leave to file bill of complaint.....	4	2
Appearance of Lyndon A. Smith for complainant.....	5	2
Bill of complaint.....	7	3
Subpoena and marshal's return of service thereon.....	20	10
Appearance of Walter C. Owen for defendant.....	22	12
Appearance of Walter Drew for defendant.....	23	12
Answer and counter-claim of defendant.....	24	13
Stipulation as to filing reply.....	30	21
Order granting leave to file reply.....	40	21
Reply .....	41	22
Appearance of Charles R. Pierce for complainant.....	49	26
Notice and motion for the appointment of a commissioner to take testimony, &c.....	50	26
Order appointing commissioner, fixing his compensation, and designating time for taking testimony, &c.....	54	28
Notice and motion for leave to open and print testimony and stipulation as to printing, &c.....	56	29
Order granting leave to file, open, and print evidence.....	61	32

	Original. P.
Supplemental report of commissioner.....	02
Appearance of Clifford L. Hilton for complainant.....	00
Appearance of Frank B. Kellogg for complainant.....	08
Motion to dispense with reproduction of maps, &c.....	00
Appearance of H. B. Fryberger for complainant.....	72
Order granting motion to dispense with reproduction of maps, &c.....	73
Commissioner's return of evidence.....	0
Evidence taken before commissioner.....	0
Order appointing commissioner, &c.....	2
Oath of commissioner.....	4
Stenographer's oath.....	5
Testimony of John G. Howard.....	8
Leonidas Merritt.....	09
Alfred Merritt.....	116
B. F. Howard.....	182
Charles A. Krause.....	215
Albert Swenson.....	225
Stipulation as to Tallas Island, &c.....	275
Testimony of George F. Kelly.....	276
D. E. Stevens.....	282
C. W. McManus.....	305
Alexander McDongall.....	319
Frank A. Brewer.....	362
Luther Mendenhall.....	370
John H. Norton.....	385
William Tiedeman.....	394
John G. Howard.....	419
J. A. Scott.....	422
James M. Kennedy.....	430
H. C. Fulton.....	436
Minnesota Exhibit 32—Personal tax receipt, 1916, Car- negie Dock & Fuel Co.....	440
33—Personal tax receipt, 1914, Car- negie Dock & Fuel Co.....	440
34—Personal tax receipt, 1915, Car- negie Dock & Fuel Co.....	441
35—Personal tax receipt, 1913, Car- negie Dock & Fuel Co.....	441
36—Redemption receipt, Carnegie Dock & Fuel Co.....	442
37—Personal tax bills, 1913, to Car- negie Dock & Fuel Co.....	444
38—Personal tax bills, 1914, to Car- negie Dock & Fuel Co.....	449
Personal tax bills, 1915, to Car- negie Dock & Fuel Co.....	450
39—Personal tax bills, 1916, to Car- negie Dock & Fuel Co.....	451
40—Personal tax bills, 1910, Pitts- burgh & Lehigh Dock Co. <i>et al.</i> .....	453



# INDEX.

iii

	Original	Print
Testimony of George W. Kane.....	458	321
Minnesota Exhibit 41—Personal and income tax notice, Zenith Furnace Co.....	461	323
42—Personal tax receipt, 1915, Zenith Furnace Co.....	462	324
43—Tax notice and auditor's voucher, Zenith Furnace Co..	463	324
Testimony of W. J. Leader.....	466	326
Minnesota Exhibit 44—Tax certificate of sale, 1915....	468	328
45—Tax certificate of sale, 1914....	470	329
46—Tax certificate of sale, 1916....	471	330
Testimony of Solon J. Buck.....	478	334
Lawrence Martin .....	499	345
E. F. Bean.....	507	386
William D. Pence.....	630	423
M. Lamper .....	647	452
Colloquy between commissioner and counsel, &c.....	659	439
Appendix A—Table of geographical positions.....	674	447
Testimony of Hiram Hayes .....	678	449
D. W. Lockwood.....	718	473
Henry S. Butler.....	721	474
E. R. Banks.....	730	480
G. A. Taylor.....	772	506
Minnesota Exhibit 51—Personal tax receipt, 1914, Zenith Furnace Co.....	780	512

## VOLUME II.

Testimony of Lewis Lachapelle.....	804	526
Edward Smith .....	823	538
Colloquy between commissioner and counsel.....	840	548
Testimony of John Shea .....	842	549
Walter J. Cayo.....	869	566
Robert Morrin .....	892	581
James P. Cole.....	897	585
J. H. Darling.....	914	596
James P. Cole (recalled).....	935	608
J. H. Darling (recalled).....	937	609
J. W. Nelson.....	964	625
Martin Cole .....	992	642
Fred Benson .....	1007	651
J. P. Burg.....	1024	662
John Ojibway .....	1044	675
J. A. Curo.....	1082	700
Victor Desimval .....	1094	707
H. V. Desimval.....	1100	717
Colloquy between commissioner and counsel.....	1125	727

	Original. Print	
Testimony of Joseph Jacobs .....	1128	728
A. E. Bishoff.....	1150	742
David N. Morrison.....	1163	750
James Bardon .....	1184	763
O. S. Olson.....	1233	792
Stipulation as to taking testimony.....	1241	798
Testimony of F. G. Ray.....	1242	798
Wm. F. Thompson.....	1258	808
George E. Mann.....	1286	827
H. C. Bellinger.....	1293	831
John Morgan .....	1305	838
G. W. Ward.....	1325	851
E. B. Banks (recalled).....	1341	861
John A. Bardon.....	1344	863
E. B. Banks (recalled).....	1346	865
John A. Bardon (recalled).....	1347	865
W. J. Leader.....	1380	886
E. F. England.....	1384	888
William L. Hutchins.....	1402	900
B. J. Van Vleck.....	1408	904
William Tiedman .....	1411	906
Colloquy between commissioner and counsel.....	1415	909
Testimony of F. W. Sardeson.....	1420	911
F. A. Brewer (recalled).....	1465	938
F. W. Sardeson (recalled).....	1475	944
L. P. Gallagher.....	1477	946
Martin Wheeler .....	1482	948
H. G. Inman.....	1503	962
George Lloyd .....	1511	967
Alfred Merritt .....	1523	975
H. W. Cheadle.....	1535	982
Alfred Merritt (recalled).....	1537	984
Martin Wheeler (recalled).....	1538	984
Offers of evidence and colloquy between commissioner and counsel.....	1541	986
Testimony of H. W. Cheadle (recalled).....	1550	991
J. H. Jeffry.....	1554	993
John Stevens .....	1567	1001
Theophile Dian .....	1585	1013
Sundry Wisconsin Exhibits.....	1603	1025
Stipulation as to Exhibit 17.....	1603	1025
Wisconsin Exhibit 6—Field notes of survey of island in section 19, township 49 north, range 14 west, of 4th prin- cipal meridian, Wisconsin; George R. Stuntz, U. S. deputy surveyor .....	1605	1026
Preliminary oaths of assistants to surveyor.....	1606	1026
Oath of deputy surveyor.....	1608	1027
Field notes .....	1610	1028
Final oath of assistants.....	1619	1033
List of names.....	1620	1034
Final oath of deputy.....	1621	1034

# INDEX.

v

	Original.	Print
Approval of field notes.....	1622	1035
Clerk's certificate to field notes.....	1623	1035
Secretary of State's certificate.....	1624	1035
Wisconsin Exhibit 9—Certified copy of patent, United States to State of Wisconsin, January 10, 1889.....	1625	1036
10—Certified copy of patent, United States to State of Wisconsin, January 25, 1872.....	1629	1038
11—Certified copy of patent, State of Wisconsin to Anna M. Hugler, March 1, 1889.....	1634	1040
12—Certified copy of patent, State of Wisconsin to S. H. Clough.....	1638	1042
-- Journal of the Senate of Minnesota, extracts from proceedings on Monday, February 3, 1913, including reports of boundary committees, &c. ....	1641	1043
16½—Certified copy of letter, Gaillard, captain of engineers, U. S. Army, to Governor of Wisconsin, April 1, 1903 .....	1652	1049
Memorandum by commissioner with reference to Exhibit 17	1656	1050
Wisconsin Exhibit 18—Certified copy of joint resolution No. 72, Wisconsin Legislature of 1911.	1657	1051
19—Certified copy of report of Minnesota-Wisconsin Boundary Commission .....	1662	1053
20—Certified copy of charter of village of Duluth, chapter 1, secs. 1 and 2, 1881 .....	1675	1059
21—Certified copy of charter of city of Duluth, chapter 1, sec. 1, 1887....	1679	1061
22—Certified copy of charter of city of Duluth, chapter 1, sec. 1, 1900....	1682	1063
23—Certified copy of proposed charter of city of Duluth, chapter 1, sec. 1, 1912 .....	1686	1065
30—Record of flow of St. Louis River at Thomson Dam, 1908.....	1690	1067
Record of flow of St. Louis River at Thomson Dam, 1909.....	1690	1067
Record of flow of St. Louis River at Thomson Dam, 1910.....	1691	1067
Record of flow of St. Louis River at Thomson Dam, 1911.....	1691	1067
Record of flow of St. Louis River at Thomson Dam, 1912.....	1692	1068
Record of flow of St. Louis River at Thomson Dam, 1913.....	1692	1068

## INDEX.

	Original.	Print
Record of flow of St. Louis River at Thomson Dam, 1914.....	1693	1008
Record of flow of St. Louis River at Thomson Dam, 1915.....	1693	1008
Record of flow of St. Louis River at Thomson Dam, 1916.....	1694	1009
Record of flow of St. Louis River at Thomson Dam, 1917.....	1694	1009
31a—Appendix A—Table of geographical positions, southwest region of Lake Superior .....	1695	1070
44—Statement .....	1697	1071
48—Certified copy of deed, United States to Emerson Chase.....	1699	1072
56—List of maps of Superior and vicinity upon which no boundary line is shown.....	1701	1073

1 At the Capitol of the United States in the City of Washington, and District of Columbia, being the present seat of the National Government of the United States on the second Monday of October (being the ninth day of the same month) in the year of our Lord one thousand nine hundred and sixteen and of the Independence of the United States the one hundred and forty-first, the Supreme Court of the United States met agreeably to law.

2 And on the same day, to-wit, on the 9th day of October A. D. 1916, the following entry appears of record, viz:

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN.

Mr. Lyndon A. Smith, of counsel for the complainant submitted to the consideration of the Court a motion for leave to file a bill of complaint in this cause.

October 9, 1916.

Which said motion is in the words and figures following, viz:

3 In the Supreme Court of the United States, October Term, 1916.

No. —, Original.

In Equity.

THE STATE OF MINNESOTA, Complainant,

VS.

STATE OF WISCONSIN, Defendant.

*Motion for Leave to File Bill of Complaint.*

Now comes the State of Minnesota, by Lyndon A. Smith, its Attorney General and its solicitor, and moves the court for leave to file the bill of complaint herewith exhibited in a controversy which has arisen between the State of Minnesota, the complainant therein, and the State of Wisconsin, the defendant therein, concerning the boundaries and jurisdiction of said States, and that the proper process directed to the defendant may be issued thereon.

LYNDON A. SMITH,

Attorney General of the State of Minnesota,  
Solicitor for Complainant.

And afterwards, to-wit, on the 16th day of October, A. D. 1916, the following entry appears of record, viz:

4 THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN.

On consideration of the motion for leave to file a bill of complaint herein,

It is now here ordered by the Court that the *that the* said motion be, and the same is hereby, granted, and that process issue returnable on the first Monday in March next.

October 16, 1916.

And afterwards, to wit, on the 23d, day of October, A. D. 1916, an appearance was entered for complainant as follows, viz:

5 *Order for Appearance.*

Supreme Court of the United States, October Term, 1916.

No. 24, Orig'l.

STATE OF MINNESOTA, Complainant,


VS.

STATE OF WISCONSIN.

The Clerk will enter my appearance as Counsel for the Complainant:

(Name) LYNDON A. SMITH,  
(P. O. Address) *St. Paul, Minn.*

H. P. FRYBERGER,  
*Duluth, Minn.*

 NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S. October Term, 1916. Term No. 24 Original. Appearance for Complainant. Filed Oct. 23, 1916.

6 And on the same day, to wit, on the 23d day of October A. D. 1916, the Bill of Complaint was filed in words and figures following, viz:

7 In the Supreme Court of the United States, October  
Term, 1916.

No. —, Original.

In Equity.

STATE OF MINNESOTA, Complainant,

vs.

STATE OF WISCONSIN, Defendant.

*Bill of Complaint.*

To the Honorable the Chief Justice and Associate Justices of the  
Supreme Court of the United States:

The State of Minnesota, one of the United States of America, by  
Lyndon A. Smith, the duly elected, qualified, and acting Attorney  
General thereof, brings this bill of complaint against the State of  
Wisconsin, also one of the United States of America, and your orator  
complains and alleges:

1. That your orator, the State of Minnesota, is one of the States  
of the union of States constituting and forming the United  
8 States of America; that under and by virtue of an act of the  
Congress of the United States of America, approved February  
26th, 1857, being an act authorizing the establishment of a State  
government for the then proposed State of Minnesota (11 U. S.  
Stat. at Large, p. 166), and an act of the Congress of the United  
States of America approved May 11, 1858, being an act admitting  
the State of Minnesota into the Union (11 U. S. Stat. at Large, p.  
285), your orator was, on said last-mentioned date, admitted to the  
union of States constituting the United States of America upon an  
equal footing with the original States in all respects whatsoever.

2. That the defendant, State of Wisconsin, is also one of the union  
of States constituting and forming the United States of America;  
that under and by virtue of an act of Congress approved August 6,  
1846, being an act to enable the people of Wisconsin Territory to  
form a constitution and State government, and for the admission of  
such State into the Union (9 U. S. Stat. at Large, p. 56), and an act  
of Congress approved May 29th, 1848, entitled "An act for the admis-  
sion of the State of Wisconsin into the Union" (9 U. S. Stat. at Large,  
p. 233), the defendant, State of Wisconsin was admitted to be one  
of the United States of America on an equal footing with the original  
States in all respects whatsoever, with the boundaries prescribed by  
the said act of Congress approved August 6th, 1846.

3. That under and pursuant to the act of Congress approved  
August 6th, 1846, and by section 1 thereof the boundaries of the pro-  
posed State of Wisconsin, so far as it is relevant to the matters herein  
in controversy, reads as follows:



"Thence through the center of Lake Superior to the mouth of Saint Louis River; thence up the main channel of the Saint Louis River to the first rapids of the same above the Indian Village, according to Nicolle's map";

9 That the boundary so described still constitutes and forms a part of the boundary of the State of Wisconsin and is described in the same words in the Constitution approved by an act approved May 29th, 1848, entitled "An act for the admission of the State of Wisconsin into the Union" (9 U. S. Stat. at Large, p. 235).

4. That under and pursuant to the act of Congress approved February 26th, 1857, and by section 1 thereof the boundaries of the proposed State of Minnesota, so far as it is relevant to the matters herein in controversy, reads as follows:

"Thence up the main channel of said River (Mississippi), and following the boundary line of the State of Wisconsin, until the same intersects the Saint Louis River; thence down said river to and through Lake Superior on the boundary line of Wisconsin and Michigan";

That the boundary so described still constitutes and forms a part of the boundary of the State of Minnesota, and is described in the same words in the Constitution approved by an act approved May 11th, 1858, being an act entitled "An act for the admission of the State of Minnesota into the Union" (11 U. S. Stat. at Large, p. 285).

5. That said Saint Louis River flows in a more or less easterly and westerly direction at the place where it forms the boundary between the States of Minnesota and Wisconsin; that the westerly end of Lake Superior is divided up into various bays and inlets, among which are the Bay of Superior, Pokegama Bay, Kimball's Bay, and Saint Louis Bay; that portion of Saint Louis Bay lying westerly of what is known as Grassy Point being known as Upper and that portion lying easterly of Grassy Point being known as Lower Saint Louis Bay. There is a dispute between the State of Minnesota and the State of Wisconsin as to what comprises the boundary line between

10 said States upon Upper Saint Louis Bay and Lower Saint Louis Bay; the State of Minnesota being to the north of said bays and the State of Wisconsin being to the south of said bays, Duluth, St. Louis County, Minnesota, fronting upon said bays upon the north and the city of Superior, Douglas County, Wisconsin, fronting upon said bays upon the south.

6. At the time the boundaries for the State of Wisconsin were determined according to the acts of Congress hereinbefore referred to the waters of Upper and Lower Saint Louis bays were on an average from five (5) to nine (9) feet in depth, and in some places there were holes or depressions where the water reached the depth of twenty-two (22) feet, but said depressions were not continuous. Practically all of Upper and Lower Saint Louis bays between the shores were navigable for such vessels as were accustomed to use said bays at said time for the purpose of navigation, and there was no defined course, or channel, in said bays, which said vessels fol-



lowed, but, owing to the depth of the water, they were permitted and accustomed to travel across said bays in any direction. The waters of Saint Louis River merged into the waters of Lake Superior at the westerly end of Upper Saint Louis Bay.

7. On December 5th, 1894, the War Department of the United States of America, under and pursuant to an act of Congress approved September 19th, 1890, duly established dock lines on the Minnesota and Wisconsin sides of Upper and Lower Saint Louis bays, said dock lines being established in aid of navigation.

8. On November 17th, 1899, the War Department of the United States of America, under and pursuant to an act of Congress approved June 13th, 1892, an act of Congress approved June 3d, 1896,

11 and an act of Congress approved March 3d, 1899, duly established dock lines on the Minnesota and Wisconsin sides of said Upper and Lower Saint Louis bays. The dock line so established was at some points nearer and at some points further away from the respective shores than the dock lines previously established. That at said time the property hereinafter referred to and in dispute between said States, and in fact all the dock property fronting upon said established dock lines in said Upper Saint Louis Bay, and all of said submerged land, was largely in a wild, unimproved condition and without any permanent improvement, and very largely without any improvement whatsoever, either permanent or temporary, and that all of the improvements hereinafter referred to upon said property were erected after the establishment of said Government dock line and with relation thereto and in reliance upon the same.

9. That since the establishment of said Government dock line in the year 1899 many of the owners of the shore lands in Minnesota on the northerly side of Saint Louis Bay have constructed wharves and made other valuable and extensive improvements in improving the property out to the dock line last established on the north side of Saint Louis Bay, these improvements aggregating in value many millions of dollars. The parties so improving their property and constructing docks and slips thereon did so under the claim of ownership based on their title to the Minnesota shore lands and under the belief that they were making improvements within the territorial boundaries of the State of Minnesota. That said improvements consist, among other things, of coal docks and docks in connection with furnace plants, and that the same are of the most modern and permanent type and put in at large expense and extend out to said established dock line, and that the same were erected for the handling of coal and other products for delivery by boat upon the Great

12 Lakes and transferred by means of said docks to cars for transportation to a large part of the Northwest, and that it is impossible to operate said docks without access to said Government dock line and the channel dredged out beyond said Government dock line, and that upon said docks, from time to time, there are stored large quantities of coal and other material, and that large operations are carried on upon said docks and a large number of men employed in connection therewith.

10. It is claimed by the State of Wisconsin that the boundary of

the State of Wisconsin through said Upper and Lower Saint Louis bays extends northerly of the north dock line as established in said Upper and Lower Saint Louis bays.

11. That complainant herein maintains and always has maintained that the boundary line of the State of Minnesota and the State of Wisconsin, through said Upper and Lower Saint Louis bays, is, through the center of said bays in accordance with the enabling acts hereinbefore referred to.

12. That all of the submerged land lying between said north dock line and the upland of Minnesota and all improvements thereon have at all times been taxed by the taxing officials of the State of Minnesota, and taxes paid thereon to the State of Minnesota, and the same has been policed by the officials of said State, and both civil and criminal jurisdiction of said improved property has been had by the courts of said State and by the courts of the United States for the District of Minnesota, and none of the powers hereinbefore in this paragraph set forth has been questioned by any party whatever, except as to taxes commencing in the year 1913, and that as to taxes the question thereto has been raised by the taxing authorities of the State of Wisconsin, and that prior to said year 1913 no claim was ever made by said State of Wisconsin, nor by the taxing au-

13      thorities thereof, nor by any other person, party or corporation, municipal or otherwise, as to said disputed property, nor was any attempt made to exercise jurisdiction, either civil or criminal, or for taxation purposes, over said property prior to said time, and that said State of Wisconsin and the taxing authorities thereof and the owners of the property upon the Wisconsin side opposite thereto made no objection to the building of said improvements, or to the use of the same, although the same was made to their full knowledge, and that no claim was made to the same, or the right to tax the same, or the personal property thereon, or the real estate, until after said improvements had been made.

13. That since the year 1913 the officials having charge of the matter of assessing, levying, and collecting taxes under and by virtue of the laws of the State of Wisconsin have attempted to assess, levy, and collect taxes upon the improved real and the personal property situated between the north dock lines as established in the year 1899 and the boundary line as claimed by the State of Wisconsin, and that the authorities of the State of Wisconsin now are attempting to exercise rights of sovereignty both as to taxes and as to criminal and civil jurisdiction over said premises.

14. Many of the improvements made as hereinbefore described, were made as much as fifteen years ago, and it has been a matter of great embarrassment, inconvenience, and trouble to those owning property between said north dock line established in the year 1899 and the boundary line as claimed by the State of Wisconsin since the year 1913, when the authorities of the State of Wisconsin commenced attempting to assess, levy and collect taxes upon both the improved real and the personal property situated as above described, and many of the owners, fearing lest some rights of theirs would be jeopardized, have paid taxes upon said property both to the State

of Minnesota and to the State of Wisconsin, causing a double taxation on the same class of property for the same purposes and to different States. That said taxes were paid under duress and because of threats made by said taxing authorities to sell the personal property upon said docks unless said taxes were paid, and that said owners have been and are being subjected to double taxation to avoid the sale of their said property, and that they are unable to ascertain the proper parties to whom said taxes should be paid, and that it is impossible to determine said question and have the same binding upon your orator and said defendant unless said question of said true boundary line be determined by this court.

15. The conflict of civil and criminal jurisdiction of the State courts and the courts of the United States upon said property also gives rise to a threatened great inconvenience.

16. Many of the parties owning property on said Upper and Lower Saint Louis bays have brought actions in the courts, which as yet are not finally determined, for the purpose of determining the ownership of the lands lying in the disputed territory above described, said action being based primarily upon the basic principle in the law known as riparian rights; one of the actions being brought by George W. Norton, Jr., as administrator of the estate of George W. Norton, deceased, vs. Zenith Furnace Company, the action being in ejectment for a part of said property. The plaintiff claiming that as owner of lands on the south side of Saint Louis Bay and in the State of Wisconsin his riparian rights extend to the boundary line as claimed by the State of Wisconsin and in said action seeks to eject the defendant from property worth many hundred thousands of dollars in value. This action has been commenced in the Circuit Court for Douglas County, Wisconsin. Another action has been commenced by Chartiers Mining Company to quiet title to lands, which it claims to own in said disputed territory by virtue of its ownership of land on the north side of Saint Louis Bay. Said action

15 is brought against George W. Norton, as Executor, and is in the nature of an action to quiet title, the plaintiff claiming that its riparian rights extend to the boundary line as claimed by the State of Minnesota and said action is now pending in the District Court for the Eleventh Judicial District, St. Louis County, State of Minnesota, and that still another action in similar form has been commenced by the Pittsburgh & Lehigh Dock Company in said court last mentioned to quiet title to a portion of said lands and said disputed territory, and which said action is likewise in the form of an action to quiet title under the claim of riparian rights, and which said action is against said last-named defendant.

17. Your orator is informed and believes that many parties owning lands both on the north and south sides of said Saint Louis Bay contemplate actions similar to those already commenced, with the result that there will be a great deal of confusion in the courts of the State of Minnesota and of the State of Wisconsin and of the United States, to which said cases may be removed, provided jurisdictional points for removal exist, and that the results may be diverse and conflicting and may result in one boundary line being established in

one action and another and conflicting boundary line in another action; and neither of the States of Minnesota or Wisconsin being parties thereto will be bound thereby.

18. That in the year 1911 the Legislature of the State of Minnesota, by a joint resolution of the House of Representatives and Senate, created a joint committee, consisting of three Representatives, to be designated by the Speaker, and two Senators, to be designated by the Lieutenant-Governor, to confer with a similar committee of the Legislature of the State of Wisconsin, if one should be appointed, to act in the matter of determining the boundary between the States of Minnesota and Wisconsin with reference to the waters near the mouth of the St. Louis River. Said committee was empowered to summon witnesses, compel the production of books and papers and take testimony in relation to said boundary dispute and was directed to report to the Legislature any proposed settlement of the location of said boundary. The members of the committee were appointed, as therein provided, and thereafter the Legislature of the State of Wisconsin duly created a like committee to confer with the committee provided for by the Legislature of the State of Minnesota.

It was further provided by the Legislature of the State of Minnesota, by joint resolution of the House of Representatives and Senate, during the legislative session of 1911, that the period of service of said committee of the Legislature of the State of Minnesota be extended until the session of the Legislature of said State next ensuing after the then session thereof, and that during said period of extended service said committee be vested with all powers, duties and privileges originally conferred upon it, and that it make its report and recommendations to said next ensuing session of the Legislature.

That at special session of the Legislature of the State of Minnesota, held in the year 1912, it was, by joint resolution of the House of Representatives and Senate, provided that the period of service of said committee of the Legislature of the State of Minnesota be further extended until the regular session of the Legislature of said State next ensuing after the then session thereof and that during said period of extended service said committee be vested with all powers, duties, and privileges originally conferred upon it, and that it make its report and recommendation to such next ensuing session of the Legislature.

That thereafter the committee so created by the Legislatures of the States of Minnesota and Wisconsin met and organized as a joint commission and had a number of hearings and conferences, at which testimony was taken and an attempt made to reach a basis of agreement as to said boundary line, but without success. The last meeting of the joint commission of the two States was held on December 18th, 1912, upon which date a joint report, signed by all of the members of the joint commission, consisting of five committeemen from each State, was made to the respective Legislatures of the State of Minnesota and the State of Wisconsin. Said report recommended the enactment of certain uniform laws relating to fishing upon the boundary waters between the two States, and

with reference to the matter of boundary line in dispute said joint report stated:

"The controversy existing between the two States concerning the boundary line is fundamental and substantial, and we find and determine that there is no opportunity for an adjustment of this controversy which does not involve a complete surrender by one or the other of the States of its position and contention with reference thereto. We therefore agree that this commission can arrive at no satisfactory adjustment of these differences."

That thereafter, on the 3d day of February, 1913, the report of said joint boundary commission was presented to the Legislature of the State of Minnesota by the committee created by said Legislature, and said joint boundary commission then ceased to exist without having arrived at any agreement or settlement of the controversy theretofore and still existing between the two States as to the location of said boundary line.

That no further action has been taken by the Legislature of the State of Minnesota with reference to settling such controversy.

19. That it is desirable and necessary to the orderly and efficient enforcement and administration of the laws of each of said States and of the United States that the location of the boundary line between them, where the same extends through said Saint Louis Bay, be authoritatively and finally settled and determined.

18 20. That the controversy herein involves questions of the jurisdiction and sovereignty of your orator and that there is no adequate remedy at law.

Wherefore your orator prays that the defendant may be required to answer the allegations hereinbefore set forth in this bill; that upon final hearing of this cause the boundary line between the said States be ascertained and established by decree of this court as it is hereinbefore claimed to be by your orator; that the rights of your orator to the possession, jurisdiction, and sovereignty over the waters of said Saint Louis Bay, so-called, northerly of such boundary, be quieted, and the defendant forever enjoined and restrained from disturbing your orator and its officers in its sovereignty and jurisdiction over the same and the possession and enjoyment thereof by the people of the State of Minnesota, and for such other and further relief as to this honorable court may seem meet and consistent with equity and good conscience.

May it please your honors to grant unto your orator a writ of subpoena under the seal of this honorable court directed to the Governor and Attorney General of the defendant, the State of Wisconsin, commanding them, on a day certain to be therein named and under a certain penalty, to be and appear in this honorable court, then and there to answer, but not under oath (answer under oath being expressly waived), on behalf of the defendant, all and singular the matters and things hereinbefore set forth, and on behalf of the defendant to stand to, perform, and abide such further order, direction and decree as may be made against the defendant.

And your orator will ever pray.

LYNDON A. SMITH,  
*Attorney General of the State of Minnesota.*



19 UNITED STATES OF AMERICA,  
*State of Minnesota,*  
*County of Ramsey, ss:*

Lyndon A. Smith, being duly sworn, deposes and says that he is the duly elected, qualified, and acting Attorney General of the State of Minnesota; that he has read the foregoing bill of complaint and knows the contents thereof; that as such Attorney General he is authorized to pray leave to file the same, and that the same is true as he verily believes.

LYNDON A. SMITH.

Subscribed and sworn to before me this 29th day of September, 1916.

[SEAL.]

G. K. SPANGENBERG,  
*Notary Public, Ramsey County, Minn.*

My commission expires March 11, 1922.

[Endorsed:] Copy. In the Supreme Court of the United States, October term, 1916. No. —, Original. State of Minnesota, complainant, vs. State of Wisconsin, defendant. Lyndon A. Smith, Attorney General, State of Minnesota.

Office Supreme Court, U. S. Filed Oct. 23, 1916. James D. Maher, clerk.

And afterwards, to-wit, on the 25th day of October, A. D. 1916, the subpoena was issued to the Marshal.

And afterwards, to-wit, on the 2d day of November, A. D. 1916, the subpoena and Marshal's return were filed in words and figures following, viz:

20 THE UNITED STATES OF AMERICA, ss:

[SEAL.]

The President of the United States to the State of Wisconsin,  
 Greeting:

For certain causes offered before the Supreme Court of the United States, having jurisdiction in equity, you are hereby commanded that, laying all other matters aside and notwithstanding and excuse, you be and appear before the said Supreme Court, holding jurisdiction in Equity, on Monday March 5th, 1917, at the City of Washington, in the District of Columbia, being the Seat of the National Government of the United States, to answer unto a bill of complaint of the State of Minnesota in the said Court exhibited against you.

Hereof you are not to fail at your peril.

Witness the Honorable Edward D. White, Chief Justice of the

United States, at the City of Washington, the 25th day of October A. D. 1916.

JAMES D. MAHER,  
*Clerk of the Supreme Court  
of the United States.*

Service of the above subpoena and a certified copy of the Bill of Complaint therein mentioned are this 31st day of October A. D. 1916, accepted and acknowledged.

EMANUEL L. PHILIPP,  
*Governor of the State  
of Wisconsin.*

W. C. OWEN,  
*Attorney General of the  
State of Wisconsin.*

WALTER DREW,  
*Deputy Attorney General of  
the State of Wisconsin.*

21      Office of the Marshal, Supreme Court, U. S.

Came to my hand the 26th day of October 1916, and executed through acceptance of service in writing herein by the Governor of the State of Wisconsin and the Attorney General of the State of Wisconsin by Walter Drew, Deputy Attorney General of the State of Wisconsin on the 31st day of October A. D. 1916.

Witness my hand this 2d day of November, 1916, At the City of Washington.

FRANK K. GREEN,  
*Marshal, Supreme Court U. S.*

Endorsed: Supreme Court U. S. October Term, 1916. 24 Original. The State of Minnesota, Complainant, vs. State of Wisconsin. Subpoena and Marshal's return as to service. Filed Nov. 2d, 1916.

And afterwards, to-wit, on the 6th day of March, A. D. 1917, appearances were entered for defendant as follows, viz:

*Order for Appearance.*

Supreme Court of the United States.


No. 24 Orig'l, October Term, 1916.

THE STATE OF MINNESOTA, Complainant,

VS.

STATE OF WISCONSIN.

The Clerk will enter my appearance as Counsel for the defendant.

(Name) WALTER C. OWEN,  
(Po. O. Address) *Attorney General of the  
State of Wisconsin.* NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S. October Term, 1916. Term No. 24 Orig'l. Appearance for defendant. Filed Mar. 6, 1917.

*Order for Appearance.*

Supreme Court of the United States.


No. 24 Orig'l, October Term, 1916.

STATE OF MINNESOTA, Complainant,

VS.

STATE OF WISCONSIN, Defendant.

The Clerk will enter my appearance as Counsel for the defendant.

(Name) WALTER DREW,  
(P. O. Address) *Deputy Attorney General  
of the State of Wisconsin.* NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S. October Term, 1916. Term No. 24 Orig'l. Appearance for defendant. Filed Mar. 6, 1917.

And on the same day, to wit, the 6th day of March, A. D. 1917, the answer &amp; counterclaim of defendant was filed in words &amp; figures following, viz:



In the Supreme Court of the United States, October Term, 1916.

No. 24, Original. In Equity.

STATE OF MINNESOTA, Plaintiff,

v.

STATE OF WISCONSIN, Defendant.

*Answer and Counterclaim.*

To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

The State of Wisconsin, the defendant above named, and one of the United States of America, by Walter C. Owen, attorney general thereof, and Walter Drew, deputy attorney general thereof, its solicitors, for answer and counterclaim to the bill of complaint herein, or unto so much and such parts hereof as the defendant is advised it is necessary or material for this defendant to make answer unto, answering and counterclaiming against said complainant, respectfully alleges and shows to the court:

1. The defendant admits that the complainant, State of  
25 Minnesota, is one of the states of the United States of America duly admitted as such into the Union, upon an equal footing with the original states in all respects whatsoever, under and by virtue of the Act of Congress approved February 26, 1857 (11 U. S. Stat. at Large, p. 166), and the Act of Congress approved May 11, 1858 (11 U. S. Stat. at Large, p. 258).

2. The defendant admits and avers that the State of Wisconsin is one of the states of the Union duly admitted thereto on an equal footing with the original states in all respects whatsoever, under and by virtue of an Act of Congress approved August 6, 1846 (9 U. S. Stat. at Large, p. 56), and an Act of Congress approved May 29, 1848 (9 U. S. Stat. at Large, p. 233).

3. The defendant admits that, by the said Act of Congress approved August 6, 1846, and by the Constitution of the State of Wisconsin adopted pursuant thereto and by the Act approved May 29, 1848, entitled "An Act for the admission of the State of Wisconsin into the Union" (9 U. S. Stat. at Large, p. 233), the boundary of the State of Wisconsin was fixed in part as alleged in said bill, and alleges that the said boundary, so far as here material, was, in and by said Acts of Congress and said Constitution of the State of Wisconsin, fixed, established and described, and has ever since continued to be as follows:

"Thence through the center of Lake Superior to the mouth of the St. Louis river; thence up the main channel of said river to the first rapids in the same above the Indian village, according to Nicollet's map; thence due south to the main branch of the river St. Croix; thence down the main channel of said river to the Mississippi; thence down the center of the main channel of that river to the northwest corner of the State of Illinois."

26

4. The defendant admits that under and pursuant to the Act of Congress approved February 26, 1857, the boundaries of the proposed State of Minnesota, so far as relevant to the matters herein in controversy, were declared, fixed and described as follows: "Thence up the main channel of said river, and following the boundary line of the State of Wisconsin until the same intersects the St. Louis river; thence down said river to and through Lake Superior on the boundary line of Wisconsin and Michigan."

And that said boundary, so described, constitutes and forms a part of the boundary of the State of Minnesota.

5. The defendant denies that the St. Louis river flows "in a more or less easterly and westerly direction at the place where it forms the boundary between the states of Minnesota and Wisconsin," and avers that said St. Louis river flows only in an easterly direction at the place where it forms the boundary between the states of Minnesota and Wisconsin; and the defendant denies that the westerly end of Lake Superior is divided up into various bays and inlets, among which are the Bay of Superior, Pokegama Bay, Kimball's Bay, and St. Louis Bay, and denies that a part of St. Louis Bay lying west of Grassy Point, or any part thereof, is known as Upper St. Louis Bay, and denies that that part of St. Louis Bay lying easterly of Grassy Point, or any part thereof, is known as Lower St. Louis Bay; and defendant alleges and avers that parts of the waters of St. Louis river are sometimes known as and called by the names of Bay of Superior, Pokegama Bay, Kimball's Bay and St. Louis Bay. The defendant admits that there is a dispute between the State of Minnesota and the State of Wisconsin as to what comprises the boundary line between said states in the waters of St. Louis river, sometimes called,

27

as aforesaid, St. Louis Bay, the State of Minnesota being to the north, and the State of Wisconsin being to the south of said waters, Duluth, St. Louis County, Minnesota, fronting upon said waters upon the north, and the City of Superior, Douglas County, Wisconsin, fronting upon said waters on the south shore.

6. The defendant admits that at the time the boundaries of the State of Wisconsin were determined, fixed and described, as aforesaid, the waters of St. Louis river, in the parts and localities thereof sometimes called St. Louis Bay, were in depth on an average from five to nine feet, and in some places reached the depth of twenty-two feet, but defendant denies that practically all of said waters were navigable for such vessels as were accustomed to use said waters at said time, and alleges that said waters were not at said time or since, navigable from shore to shore or in all directions, and that, on the contrary, there was a well-known main channel in said waters followed commonly by navigation, and that said main channel lay and was substantially north of the center of said waters and nearer to the north shore line thereof than to the south shore line thereof. The defendant denies that the waters of St. Louis river merged into the waters of Lake Superior at the westerly end of St. Louis Bay or of any part thereof, and avers that the waters called St. Louis Bay, and the whole thereof, are and ever have been a part of St. Louis river, and that the waters of St. Louis river flow, empty and merge into the waters of Lake Superior at the place between the headlands known

respectively, as Wisconsin Point, on the south shore, and Minnesota Point, on the north shore, said place and location being a place several miles to the east of said waters of St. Louis river called St. Louis Bay.

28 7. The defendant admits that on December 5, 1894, the War Department of the United States, pursuant to an Act of Congress, approved September 19, 1890, established dock lines in said St. Louis river and the parts thereof known as St. Louis Bay. The defendant admits that on November 17, 1899, the War Department of the United States, pursuant to Acts of Congress approved June 13, 1892, June 3, 1896, and March 3, 1899, established dock lines in said St. Louis river, and the parts thereof known as St. Louis Bay, and that said dock lines, so established, were at some points nearer, and at some points farther away from the respective shores than the dock lines previously established; and the defendant admits that all of the submerged land within said dock lines, and particularly the submerged land lying and being between the north dock line, as so established, and the north shore of said St. Louis river, was largely in a wild, unimproved condition and without any permanent improvement, or any improvement whatsoever, and that the improvements on said lands referred to in said bill of complaint were erected after the establishment of said dock line, but the defendant denies that the same were erected in relation to or in reliance upon said dock line, or that the parties who erected the same were lawfully entitled to do so, either in relation to or in reliance upon said dock line.

8. The defendant denies that since the establishment of said dock line in the year 1899 many of the owners of shore lands in Minnesota have constructed wharves and made other and valuable and extensive improvements in improving property out to said north dock line, so established, on the north side of said St. Louis Bay, so-called, but admits that two of the owners of shore lands in Minnesota have

29 constructed wharves and made valuable and extensive improvements extending from the Minnesota shore out toward said dock line, and that said improvements consist of coal docks and docks in connection with furnace plants, and that the same were put in at large expense for the purpose of handling coal and other products for delivery by boat upon the Great Lakes, and for transferring the same to cars for rail transportation, and that upon said docks are stored, from time to time, large quantities of coal and other materials, and that large operations are carried on upon said docks and a large number of men employed in connection therewith; but defendant denies that the parties constructing said docks did so under the claim of ownership of the land upon which the same were constructed, or so much thereof as lay to the south of the main channel of the St. Louis river, and denies that said parties constructed said improvements under the belief that they were constructed within the territorial boundaries of the State of Minnesota, and alleges that said improvements were so constructed and are maintained from the Minnesota shore across the main channel of the St. Louis river and extending to the south of said main channel of the St. Louis river, and alleges that the parties so constructing the same well knew that

the said improvements, and so much thereof as lay across, beyond and to the south of the main channel of the St. Louis river were within the State of Wisconsin and upon land to which they had no title in law, and upon land the ownership of which was in the owners of the lands on the south or Wisconsin side of the St. Louis river.

9. The defendant admits that it claims that the boundary of the State of Wisconsin, through said St. Louis river and through the waters thereof called St. Louis Bay and by the complaint  
30 herein Upper and Lower St. Louis Bays, extends northerly of the dock line, as established by the War Department in 1899 as aforesaid, and defendant avers and maintains that it has ever claimed that the boundary of the State of Wisconsin, in said waters, was and is the main channel of the St. Louis river therein, and the defendant alleges that the said main channel of the St. Louis river is, in said places and in said locality, at all points northerly of said north dock line being to the north thereof by varying distances, and at some places as much as fifteen hundred feet to the north of said dock line.

10. The defendant admits that the complainant, at this time, claims that the boundary line of the State of Minnesota and the State of Wisconsin, through the waters of St. Louis river, designated by said complainant as Upper and Lower St. Louis Bays, is through the center of said bays, so-called, that is to say, that said boundary line is the line equidistant between the north and south shores of said waters; but defendant denies that complainant has always so claimed or maintained, and denies that said claim of complainant as now made is legally or equitably maintainable under said enabling acts of Congress referred to in said bill of complaint.

11. The defendant denies that all of the submerged land lying between said north dock line and the upland of Minnesota, and all improvements thereon, have, at all times, been taxed by the taxing officials of the State of Minnesota, and taxes paid thereon to the State of Minnesota, and denies that the same has been policed by officials of said state, and both civil and criminal jurisdiction thereof had by the courts of said state, except as said state has, together with the State of Wisconsin, under and by virtue of said enabling acts of Congress, concurrent jurisdiction of said waters, and the defendant  
31 alleges that neither complainant nor the taxing officials of complainant have or have ever had lawful authority to tax any of said submerged lands lying to the north of said dock line and between said dock line and the main channel of the St. Louis river to the north thereof, and denies that the complainant, or the taxing officials of complainant, have ever, until the past few years, assumed to tax any of said submerged lands, save and except as the taxation thereof was included in the taxation of the upland to which the same were appurtenant. The defendant admits that the rights and powers exercised or assumed to be exercised, if any, by the complainant or its taxing officers, were not challenged by the defendant or its taxing officers prior to the year 1913, but alleges that the defendant at all times had and has at all times exercised power and authority to tax, and has assessed and taxed as pertinent to the up-

land on the south shore of said waters all of said submerged lands north of said north dock line and lying and being between said north dock line and the main channel of the St. Louis river in said waters, and further alleges that, prior to recent years, there were no structures, improvements or personal property erected, constructed or located on said submerged land lying between said north dock line and the main channel of said St. Louis river, which might be subject to assessment for taxation or taxation by the State of Wisconsin or its taxing officers, other than said submerged land so assessed and taxed by the defendant and its taxing officers, as aforesaid, and further alleges that the first of said improvements, structures or docks was only erected in or about the year 1905, and the second of said improvements, structures or docks only erected in or about the year

32     1910; and further avers that the defendant, through its taxing officers, has, in the year 1913 and at all times since, asserted and exercised its power, authority and jurisdiction, both civil and criminal, and has assessed for taxation and taxed all said permanent improvements erected on said submerged land, together with the personal property thereon, lying and being situate north of said north dock line and between said dock line and the main channel of said St. Louis river, and has assessed for taxation and taxed said improvements and personal property separately and to the owners thereof, and further alleges that the defendant, through its taxing officials and otherwise, has at all times objected to the taxation thereof or the assumption of any jurisdiction thereover by the complainant, or any of its officers or agents, for the reason and upon the ground that said structures, docks, improvements and personal property, and said submerged land lying and being situate north of said north dock line and between said dock line and the main channel of the St. Louis river were and are within the territorial jurisdiction of the State of Wisconsin.

12. The defendant admits that, since the year 1913, the taxing officials of the defendant have attempted to assess, levy and collect taxes upon the improved real and personal property situate between the north dock line, as established in the year 1899, and the boundary line as claimed by the defendant, and that the authorities of the defendant are attempting to exercise rights of sovereignty both as to taxes and as to criminal and civil jurisdiction over said premises, and alleges that the defendant, through its said officials, has, in fact, and lawfully, assessed, levied and collected taxes upon said property for many years last past, and in the manner hereinbefore stated, and has

33     at all times, and as hereinbefore stated, asserted and exercised the rights of sovereignty both as to taxes and as to criminal and civil jurisdiction over said premises as it had lawful right and authority to do under and by virtue of said enabling acts, for the reason that the same were and are within the territorial jurisdiction of said defendant.

13. The defendant denies that many of the improvements referred to in said bill of complaint were made as much as fifteen years ago, and denies that any considerable part of said improvements were



made as much as fifteen years ago, but admits that one of the docks or wharves constituting said improvements was built about the year 1905, and the other of the said docks or wharves, constituting the rest, or substantially the rest of said improvements was erected about the year 1910, and admits that there has been double taxation and embarrassment and inconvenience to the parties owning or claiming to own property between said north dock line and the boundary line as claimed by the defendant, and alleges that said double taxation, embarrassment and inconvenience to said parties grows out of and is due to the unlawful acts of the complainant, its officers and agents, in creating a controversy and in setting up and asserting a claim of jurisdiction and assuming to exercise civil and criminal jurisdiction over, and to assess and collect taxes upon land and improvements and property north of said north dock line and lying and being situate between said north dock line and the main channel of the St. Louis river, and within the territorial jurisdiction of the State of Wisconsin.

14. The defendant admits that the conflict of civil and criminal jurisdiction of the courts of the State of Minnesota and the State of Wisconsin, and the courts of the United States, upon said  
34 lands and property, gives rise to a threatened great inconvenience, but avers that said conflict and said threatened great inconvenience are due and chargeable to the controversy made and claims asserted and set up by the unlawful acts of the complainant and of its servants and agents as aforesaid.

15. The defendant admits that some of the parties owning property on the waters of said St. Louis river, known as St. Louis Bay, have brought actions in courts which are as yet not finally determined, for the purpose of attempting to determine or acquire the ownership of lands lying in the disputed territory above described, and that one of said actions has been brought by George W. Norton, Jr., as administrator of the Estate of George W. Norton, Deceased, v. The Zenith Furnace Company, being an action in ejectment for a part of said property, and that said action has been commenced in the circuit court for Douglas County in the State of Wisconsin; and admits that another action has been commenced by Chartiers Mining Company v. George W. Norton, as Executor, as an action to quiet title, said action being commenced in the district court for the eleventh judicial district, St. Louis County, State of Minnesota; and that another action of similar form has been commenced in said last mentioned court by the Pittsburg & Lehigh Dock Company, all of which said actions, this defendant alleges, affect the title to lands and improvements thereon north of said north dock line and lying and being situate between said north dock line and the main channel of the St. Louis river, and within the territorial jurisdiction of the State of Wisconsin, and this defendant further alleges that the said court of the complainant, the district court for the eleventh judicial district of the State of Minnesota, has unlawfully and in violation of the sovereignty and jurisdiction of this defendant,  
35 assumed, asserted and attempted to exercise jurisdiction to try and determine, in two of said actions, the right and title in and to

said lands and property so situate, as aforesaid, within the territorial jurisdiction of the State of Wisconsin.

16. The defendant has neither knowledge nor information upon which to form a belief as to whether many parties owning lands both on the north and south sides of said St. Louis Bay, so-called, contemplate actions similar to those already commenced, but admits that the bringing and prosecution of such actions, if the same shall be brought and prosecuted, will result in a great deal of confusion in the courts of the states of Minnesota and Wisconsin and of the United States to which said cases, or some of them, may be removed, provided jurisdictional grounds for removal exist, and that the results of such litigation, may be diverse and conflicting and may result in one boundary line being held in one action and another and conflicting line being held in another action, and admits that neither the State of Wisconsin nor the State of Minnesota, being parties thereto, will be bound thereby.

17. The defendant admits the adoption of joint resolutions by the legislatures of the states of Minnesota and Wisconsin, in the year 1911, creating a joint commission for the consideration and for the purpose of recommending to the said legislatures any possible basis of settlement which might be found of the said boundary controversy between the said states, and admits that the said joint commission reported that it was able to arrive at no satisfactory adjustment of said controversy, substantially and in form as alleged in said bill of complaint.

36 18. The defendant admits that it is desirable and necessary to the orderly and efficient enforcement and administration of the laws of each of said states, and of the United States, that the location of the boundary line between them, where the same extends through said St. Louis Bay, so-called, being that part of the St. Louis river sometimes known as St. Louis Bay, be authoritatively and finally settled and determined, and admits that the controversy herein involves the question of the jurisdiction and sovereignty of the complainant, the State of Minnesota, and that there is no adequate remedy at law, and avers and alleges that the said controversy herein involves questions of the jurisdiction and sovereignty of this defendant, the State of Wisconsin, and that this defendant is without adequate remedy at law.

And defendant denies all and all manner of unlawful acts whatsoever whereof it is in any wise by the said bill of complaint charged.

19. Further answering, and by way of counterclaim and, by reference, realleging the allegations in that behalf hereinbefore set forth, this defendant further alleges that the boundary of the State of Wisconsin and of the State of Minnesota in the St. Louis river, and in that part of St. Louis river sometimes called St. Louis Bay, is, by the said enabling acts of Congress, and particularly the Act of August 6, 1846, determined, described and fixed, and at all times since the approval of said acts and the admission of the State of Wisconsin into the Union, still is the thread or center of the main channel of the St. Louis river, in said waters, and that the main channel of the said St. Louis river, in the waters thereof called St. Louis Bay, at all times was and, save as the same has been obstructed or diverted

37 by the construction of the docks, hereinbefore mentioned, and by the dredging of said river subsequent to the year 1899, still is varying and considerable distances north of said north dock line as established by the War Department in 1899, as aforesaid, and that the controversy and dispute as to the jurisdiction, civil and criminal and for purposes of taxation, of the State of Wisconsin over the lands and property north of said dock line and lying and being situate between said dock line and the main channel of said St. Louis river, is a controversy originated, provoked and created by the officers and agents of the complainant herein, without merit, lawful cause or equity in support thereof, and that the said unlawful acts and claims of the said officers and agents of the complainant have been by the complainant affirmed, ratified and adopted to and for the unlawful benefit and advantage of the complainant, all of which said acts of said complainant and of its officers and agents are and have been in violation of the rights and sovereignty and lawful authority of the defendant State of Wisconsin.

Of all which matters and things this defendant is ready and willing to prove, as this Honorable Court shall direct.

Wherefore, the defendant prays that, upon final hearing of this cause, the boundary line between the said states be ascertained, defined and declared by decree of this court as it is hereinbefore claimed to be by the defendant, and that the rights of the defendant to the possession, jurisdiction and sovereignty over the waters of said St. Louis river, or St. Louis Bay, so-called, northerly of the said north dock line as far as the center of the main channel of the said St. Louis river, and over all the waters, lands and improvements lying southerly of the center of said main channel, be in all things quieted and confirmed unto the defendant, and that the complainant 38 be forever enjoined and restrained from disturbing the defendant and its officers in the exercise of its sovereignty and jurisdiction over the same and the enjoyment and possession thereof, and for such other and further relief as to this Honorable Court may seem meet and consistent with equity and good conscience, and also that the defendant have and recover against the complainant its reasonable costs and charges in this behalf most wrongfully sustained.

WALTER C. OWEN,

*Attorney General of the State of Wisconsin;*

WALTER DREW,

*Deputy Attorney General of the State of Wisconsin,*

*Solicitors for the Defendant.*

Office Supreme Court U. S. Filed Mar. 6, 1917. James D. Maher,  
Clerk.

And afterwards, to wit, on the 18th day of April, A. D. 1917, a stipulation as to filing reply, was filed in words & figures following viz:



39

Supreme Court of the United States.

No. 24, Original Action.

STATE OF MINNESOTA, Plaintiff,

vs.

STATE OF WISCONSIN, Defendant.

It is hereby stipulated and agreed by and between the Honorable Walter C. Owen, Attorney General of Wisconsin and Lyndon A. Smith, Attorney General of Minnesota, that the reply in the above entitled action which has been served herein may be filed herein.

WALTER C. OWEN,  
*Attorney General of Wisconsin.*  
LYNDON A. SMITH,  
*Attorney General of Minnesota.*

Dated April 16, 1917.

Endorsed: Supreme Court U. S., October Term, 1916. Term No. —. State of Minnesota, Complainant, vs. State of Wisconsin. Stipulation as to filing reply. Filed April 18, 1917.

And afterwards, to wit, on the 23d day of April A. D. 1917, the following entry appears of record viz:

40

No. 24, Original.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN.

On motion of Mr. Lyndon A. Smith of counsel for the complainant, leave is hereby granted to file a reply in this cause.  
April 23, 1917.

Which said Reply is in the words & figures following, viz:

41 In the Supreme Court of the United States, October Term,  
1916.

No. 24, Original. In Equity.

STATE OF MINNESOTA, Plaintiff,

vs.

STATE OF WISCONSIN, Defendant.

*Reply.*

To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

The State of Minnesota, complainant herein and one of the United States of America, by Lyndon A. Smith, Attorney General thereof, its solicitor, for reply to the counterclaim set forth in the Answer herein, or unto so much or such parts thereof as the complainant is advised it is necessary or material for this complainant to make answer unto, replying respectfully alleges and shows to the court:

42 1. Denies that parts of the waters of St. Louis River are sometimes known as and called by the names of Bay of Superior, Pokegama Bay, Kimball's Bay and St. Louis Bay.

2. Denies that the waters of St. Louis Bay were not, at the times referred to in the complaint herein and in the answer herein, navigable from shore to shore or in all directions, and denies that there was any main channel, as alleged in the answer herein, north of the center of said waters and nearer to the north shore line thereof than to the south shore line thereof.

3. Denies that the waters called St. Louis Bay, and the whole thereof, are and ever have been, a part of St. Louis River, and that the waters of St. Louis River flow, empty and merge into the waters of Lake Superior at the place between the headlines known respectively as Wisconsin Point, on the south shore, and Minnesota Point, on the north shore, and denies that the place and location of the merger of the waters of St. Louis River into the waters of Lake Superior is several miles east of St. Louis Bay.

4. Denies that the improvements referred to in paragraph eight of the answer herein were so constructed and are maintained from the Minnesota shore across the main channel of the body of water designated as St. Louis River in said answer, and denies that the same extends to the south of, and that there is any, main channel in said body of water designated as St. Louis River in the answer herein, and denies that the parties so constructing the same knew that the said improvements, or that any part thereof, lay across, beyond and to the south of any main channel of said body of water designated St. Louis River in the answer herein, and that the same were within the State of Wisconsin and upon land to which they had no title in law, and upon land, the ownership of which, was

43

in the owners on the south or Wisconsin side of the body of water designated St. Louis River in the answer herein.

5. Denies that defendant has ever claimed that the boundary line of the State of Wisconsin, in the waters referred to in paragraph nine of said answer, was as claimed by defendant in paragraph nine of said answer, and denies that the main channel of the body of water referred to by defendant as St. Louis River is, if ever there was any main channel, in said places and in said locality, at all points north-erly of said north dock line or that the same is now, or at any time was north thereof by varying distances.

6. Denies that neither the complainant nor the taxing officials of complainant have or have ever had lawful authority to tax any of said submerged lands lying to the north of said dock line and between said north dock line and alleged main channel of the body of water designated as St. Louis River to the north thereof, as alleged in paragraph eleven of the answer herein.

7. Denies that the defendant had and has at all times exercised power and authority to tax, and has assessed and taxed as pertinent to the upland on the south shore of said waters, all of said submerged lands north of the north dock line and lying and being between said north dock line and the main channel, if any there was or is, of the body of water designated St. Louis River in said waters, as alleged in paragraph eleven of the answer herein, and further denies  
44 that, prior to recent years, there were no structures, improvements or personal property erected, constructed or located on said submerged land lying between said north dock line and said alleged channel of the body of water designated St. Louis River in said paragraph eleven of the answer herein, which might be subject to assessment for taxation or taxation by the State of Wisconsin or its taxing officers, other than said submerged land so assessed and taxed by the defendant and its taxing officers, and further denies that the first of said improvements, structures or docks was only erected in or about the year 1905, and the second of said improvements, structures or docks only erected in or about the year 1910; and further denies that the defendant, through its taxing officers, has, in the year 1913 and at all times since, asserted and exercised its power, authority and jurisdiction, both civil and criminal, and has assessed for taxation and taxed all said permanent improvements erected on said submerged land, together with the personal property thereon, lying and being situated north of said north dock line and between said north dock line and the alleged main channel of the body of water designated St. Louis River in paragraph eleven of the answer herein, and that it has assessed for taxation and taxed said improvements and personal property separately and to the owners thereof; and further denies that the defendant, through its taxing officials and otherwise, has at all times objected to the taxation thereof or the assumption of any jurisdiction thereover by the complainant, or any of its officers or agents, for the reason and upon the ground that said structures, docks, improvements and personal property, and said submerged  
45 land lying and being situated north of said north dock line and between said dock line and the alleged main channel of the body of water designated St. Louis River in paragraph

eleven of the answer herein, were and are within the territorial jurisdiction of the State of Wisconsin.

8. Denies that the defendant, through its said officials, has, in fact, and lawfully, assessed, levied and collected taxes upon said property for many years last past and in the manner stated in the answer herein, or that it has at all times, asserted and exercised the rights of sovereignty both as to taxes and as to criminal and civil jurisdiction over said premises, or that it had lawful right and authority so to do under and by virtue of said enabling acts, or that the same were and are within the territorial jurisdiction of the defendant.

9. Denies that any double taxation, embarrassment or inconvenience to the parties referred to in paragraph thirteen of the answer herein, grows out of and is due to any unlawful acts of the complainant, its officers and agents, in creating a controversy and in setting up and asserting a claim of jurisdiction and assuming to exercise civil and criminal jurisdiction over, and to assess and collect taxes upon the land and improvements and property north of said north dock line referred to in paragraph thirteen of the answer herein; and denies that the same are within the territorial jurisdiction of the State of Wisconsin.

10. Denies that said conflict and said threatened great inconvenience are due and chargeable to the controversy made and claims asserted and set up by the complainant, or that the same are contributed in anywise to any of the acts of complainant and its servants  
46 and agents; and denies that complainant, or any of its servants and agents, have committed any unlawful acts with reference thereto.

11. Denies that any of the actions referred to in paragraph fifteen of the answer herein affect the title to lands and improvements within the territorial jurisdiction of the State of Wisconsin; and denies that the court of complainant, the District Court for the Eleventh Judicial District of the State of Minnesota, has unlawfully and in violation of the sovereignty and jurisdiction of the defendant, assumed, asserted or attempted to exercise jurisdiction to try and determine, in any of said actions, the right and title in and to any land or property situated within the territorial jurisdiction of the State of Wisconsin.

12. Denies that the body of water known as St. Louis Bay comprises any part of St. Louis River, and denies that the boundary between the State of Wisconsin and the State of Minnesota is, by the enabling acts of Congress, and particularly the Act of March 6th, 1846, determined, described and fixed and, at all times since the approval of said acts and the admission of the State of Wisconsin into the Union, still is the thread or center of the main channel of the St. Louis River in said water, and that the main channel of the said St. Louis River in the waters thereof called St. Louis Bay at all times was and, save as the same has been obstructed or diverted by the construction of the docks referred to in said counterclaim or answer, and by the bridging of said River subsequent to the year 1899, still is varying and considerable distances north of the said north dock line as established by the War Department in 1899, and denies that the controversy and dispute as to the jurisdiction, civil and criminal,  
47 and for purposes of taxation of the State of Wisconsin over the lands and property north of said dock line and lying and

being situate between said dock line and the boundary line, as claimed by the State of Wisconsin, is a controversy originated, provoked and created by the officers and agents of the complainant herein, without merit, lawful cause or equity in support thereof, and denies that any unlawful acts or unlawful claims have, at any time, been made by the officers or agents of the complainant or that complainant or its officers or agents at any time, have committed any act in violation of the rights or sovereignty and lawful authority of the defendant State of Wisconsin.

13. Alleges, as alleged in the complaint herein, that said St. Louis Bay is a part of Lake Superior and is not a part of St. Louis River and alleges that the boundary line of the State of Minnesota and the State of Wisconsin through upper and lower St. Louis Bay is, through the center of said Bay, in accordance with the enabling acts referred to in the bill of complaint herein.

14. Denies each and all manner of unlawful acts whatsoever whereof it is in any wise by the said answer or counterclaim charged.

Wherefore, complainant prays that, upon the final hearing of this cause, the boundary lines between the said States be ascertained, as prayed for in the complaint herein.

LYNDON A. SMITH,

*Attorney General of the State of Minnesota.*

OSCAR MITCHELL,

H. B. FRYBERGER,

*Of Counsel.*

48 UNITED STATES OF AMERICA:

STATE OF MINNESOTA,

*County of Ramsey, ss:*

Lyndon A. Smith, being duly sworn, deposes and says: that he is the duly elected, qualified and acting Attorney General of the State of Minnesota; that he has read the foregoing Reply and knows the contents thereof; that as such Attorney General he is authorized to pray leave to file the same, and that the same is true as he verily believes.

LYNDON A. SMITH.

Subscribed and sworn to before me this 10th day of March, 1917.

[NOTARIAL SEAL.]

G. K. SPANGENBERG,

*Notary Public, Ramsey County, Minnesota.*

My commission expires March 11, 1922.

Office Supreme Court U. S. Filed Apr. 23, 1917. James D. Maher, Clerk.

And Afterwards, to wit, on the 24th day of May A. D. 1917, an appearance was entered for complainant as follows, viz:

*Order for Appearance.*

Supreme Court of the United States, October Term, 1916.

Original, No. 24.


STATE OF MINNESOTA, Complainant,

vs.

STATE OF WISCONSIN, Defendant.

The Clerk will enter my appearance as Counsel for the Complainant.

(Name) CHARLES R. PIERCE,  
(P. O. Address) 518 Nat. Bank Bldg., Washington, D. C.

 NOTE.—Must be signed by a member of the Bar of the Supreme Court of the United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S. October Term, 1916. Term No. 24, Original. Appearance for Complainant. Filed May 24, 1917.

50 And afterward, to wit, on the 4th day of June, A. D. 1917, a notice & motion for the appointment of a Commissioner to take testimony herein was filed in words & figures following, viz:

Supreme Court of the United States.

No. 24, Original Action.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN, Defendant.

*Notice of Motion.*

To the State of Wisconsin:

You will please take notice that the complainant herein, the State of Minnesota, by its counsel will move the above court on Monday, June 4, 1917, for the appointment of a commissioner to take testimony, fixing the rate of his compensation and payment of his disbursements, and setting the time and circumstances under which the testimony in this case shall be taken.

LYNDON A. SMITH,  
*Attorney General of Minnesota.*



51

Supreme Court of the United States.

No. 24, Original Action.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN, Defendant.

*Motion.*

Now comes the complainant, the State of Minnesota, in the above-entitled cause, by its respective counsel and moves the court that an order issue for the appointment of a commissioner to take and report the testimony in the above-entitled cause, fixing the rate of his compensation and the payment of his disbursements, and setting the time and circumstances under which the testimony in such cause shall be taken, in accordance with and pursuant to the stipulation therefor, hereto attached.

LYNDON A. SMITH,

*Attorney General of Minnesota.*

Due and personal service of the above notice of motion and motion admitted.

WALTER C. OWEN,

*Attorney General of Wisconsin.*

52

Supreme Court of the United States, October Term, 1916.

No. 24, Original.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN, Defendant.

*Stipulation.*

On Consideration of the motion of counsel for the complainant and the stipulation of counsel for the respective parties to this cause,

It Is Stipulated, that David E. Roberts, Esquire, of Superior, Wisconsin, be, and he is hereby appointed the Commissioner to take and return the testimony in this cause to this Court, without findings of fact or conclusions of law; that he shall be allowed not to exceed twenty dollars (\$20) per diem for his compensation, together with his actual traveling and reasonable hotel expenses, an itemized statement of which shall be submitted to this court in his final report, the payment of such compensation and expenses to be made in such manner as the Court may hereafter direct.

It Is Further Stipulated, that the complainant may take testi-

mony in chief at such place as it may indicate between July 5, 1917, and August 1, 1917, upon giving ten days' notice of the time and place to the counsel for the defendant, and that the defendant may take testimony at such place as it may indicate between August 1, 1917, and August 25, 1917, upon giving ten days' notice of the time and place to the counsel for the complainant.

It Is Further Stipulated, that the complainant may take testimony in rebuttal between August 25th and September 15th, 1917, and that the defendant may take testimony in surrebuttal between September 15th and October 1, 1917, at such times and places as they may respectively indicate by ten days' notice to opposing counsel.

It Is Further Stipulated, that the above set forth times designated for taking testimony may be varied by consent of counsel, which shall have the same effect as an order entered by this court when entered upon the record before the Commissioner.

It Is Further Stipulated, that a competent stenographer shall be furnished by each party to the Commissioner who shall be under the direction and supervision of the Commissioner, and such stenographer shall furnish four copies of the testimony as soon as possible after the taking of each portion thereof, one for each of the parties and two for the Commissioner.

Subpœnas may be issued out of any United States District Court, effective throughout the United States.

Dated May 17, 1917.

LYNDON A. SMITH,  
*Attorney General of Minnesota.*  
WALTER C. OWEN,  
*Attorney General of Wisconsin.*

Office Supreme Court U. S. Filed Jun- 4, 1917. James D. Maher, Clerk.

And on the same day, to wit, the 4th day of June, A. D. 1917, the following entry appears of record viz:

54 Supreme Court of the United States, October Term, 1916.

No. 24, Original.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN.

On motion of Mr. Charles R. Pierce, of counsel for the Complainant, and in pursuance of the stipulation of counsel for the respective parties to this cause.

It is now here ordered by the Court that David T. Roberts, Esquire, of Superior, Wisconsin, be, and he is hereby appointed the Commissioner to take and return the testimony in this cause to this Court, without findings of fact or conclusions of law; that he shall



be allowed not to exceed twenty dollars (\$20.0-) per diem for his compensation, together with his actual traveling and reasonable hotel expenses, an itemized statement of which shall be submitted to this court in his final report, the payment of such compensation and expenses to be made in such manner as the Court may hereafter direct.

It is further ordered that the complainant may take testimony in chief at such place as it may indicate between July 5, 1917, and August 1, 1917, upon giving ten days' notice of the time and place to the counsel for the defendant, and that the defendant may take testimony at such place as it may indicate between August 1, 1917, and August 25, 1917, upon giving ten days' notice of the time and place to the counsel for the complainant.

It is further ordered that the complainant may take testimony in rebuttal between August 25th and September 15th, 1917, and that the defendant may take testimony in surrebuttal between September 15th and October 1, 1917, at such times and places as they  
55 may respectively indicate by ten days' notice to opposing counsel.

It is further ordered that the above set forth times designated for taking testimony may be varied by consent of counsel, which shall have the same effect as an order entered by this court when entered upon the record before the Commissioner.

It is further ordered that a competent stenographer shall be furnished by each party to the Commissioner who shall be under the direction and supervision of the Commissioner, and such stenographer shall furnish four copies of the testimony as soon as possible after the taking of each portion thereof one for each of the parties and two for the Commissioner.

Subpoenas may be issued out of any United States District Court, effective throughout the United States.

June 4, 1917.

And afterwards, to-wit, on the 17th day of December, A. D. 1917, a motion for leave to open and print testimony, etc., was filed in words and figures following, viz:

56 To the Honorable Walter C. Owen, Attorney General for the State of Wisconsin:

You will please take notice that the Complainant herein, the State of Minnesota, by its Attorney General, will move the above court on Monday, December 17th, 1917, for a direction to the clerk of this court, to file and open the testimony returned to this court by the Honorable David E. Roberts, of Superior, Wisconsin, the Commissioner to take testimony herein, appointed by this court as of the 4th day of June, 1917, and further, that the said report of the said commissioner be printed according to the rules of this court and the stipulation of the Attorney General for the States, parties hereto.

LYNDON A. SMITH,  
*Attorney General for Minnesota.*

Supreme Court of the United States.

No. 24, Original Action.

THE STATE OF MINNESOTA, Complainant,

VS:

THE STATE OF WISCONSIN, Defendant.

*Motion.*

Now comes the Complainant, State of Minnesota, in the above entitled cause, by its Attorney General, and moves the Court, that an order issue:

First: For the filing and opening of the report of the testimony in the above entitled cause taken and returned by the Honorable David E. Roberts, Commissioner, under the appointment therefor made by this court herein on the 4th day of June, 1917.

Second: That the testimony so returned be printed in accordance with the rules of this court and the stipulation of the Attorneys General of the respective states, parties hereto, which stipulation is hereto attached and made a part hereof.

LYNDON A. SMITH,  
*Attorney General for Minnesota.*

Due and personal service of annexed notice of motion and above motion admitted, and consent to the hearing of said motion on the 17th day of December, 1917, is hereby given.

WALTER C. OWEN,  
*Attorney General for Wisconsin.*

Supreme Court of the United States.

No. 24, Original Action.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN, Defendant.

*Stipulation.*

Whereas, there are some parts of the maps, charts, and diagrams introduced in evidence in this action and returned by the Commissioner appointed to take such evidence, to-wit: David E. Roberts, Esq., of Superior, Wisconsin, which it is unnecessary to print as a part of the record on account of duplications, the introduction of greater portions of such maps, charts and diagrams than are material and relevant to the hearing of this action, and the like;

Now therefore, it is stipulated, on the part of the Attorneys General of the States, parties hereto, that the following exhibits, constituting a part of the testimony in said action, need not be printed or otherwise reproduced in full, to-wit:

59

## MINNESOTA EXHIBITS.

Not to be printed at all or reproduced:

Exhibits 2, 10, 24, 27 and 31.

The following described parts of the exhibits hereinafter mentioned are to be printed or otherwise reproduced, but not any other part of such exhibits, to-wit:

Exhibit "5": all above the blue line and showing the lake and waters involved.

Exhibit "6": all above the blue line showing the lake and waters involved.

Exhibit "9": that part to the east (or right) of the blue line showing the lake and waters involved.

Exhibit "11": that part east (to the right) of the blue line showing the lake and waters involved.

Exhibit "12": that part lying to the east (or right) of the blue line showing the waters involved.

Exhibit "18": omit all between the east and west blue line running, the one through the north line of Township 52, and the other the south line of Township 66, and reproduce all north of the south line of said Township 66 and south of the blue line running along the north line of Township 52.

Exhibit "26": reproduce that part above the blue line showing the lake and waters involved.

Exhibit "28": reproduce that part of the map to the left and above the blue line, which part shows the lake and the waters involved.

60 Exhibit "29": reproduce that part of the map lying within the blue line showing the lake and waters involved.

Exhibit "30": reproduce that part of the map lying to the east (or right) of the blue line showing the lake and waters involved.

Exhibit "50": reproduce all above (north of) the blue line.

Exhibit "57": reproduce that portion within the blue lines at the upper left-hand corner, showing the lake and waters involved.

Exhibit "58": reproduce all at the left of the blue line.

## WISCONSIN EXHIBITS.

Not to be printed at all or reproduced:

Exhibits 4, 7, 8, 31, 31-b, 31-k, 31-L, 44, 46-a, and 46-b.

The following exhibits are to be printed or otherwise reproduced to the extent hereinafter specified and no more:

Exhibit "5": omit the certificate.

Exhibit "52": omit the certificate.

All documents, maps, charts and other instruments, not mentioned in the foregoing lists, are to be printed as they appear in the record, and their printing or reproduction is not to be affected in any way by this stipulation.

LYNDON A. SMITH,  
*Attorney General of the State of  
Minnesota, Solicitor for Plaintiff.*  
WALTER C. OWEN,  
*Attorney General of the State of  
Wisconsin, Solicitor for Defendant.*

Office Supreme Court, U. S. Filed Dec. 17, 1917. James D. Maher, Clerk.

And on the same day, to-wit, on the 17th day of December, A. D. 1917, the following entry appears of record, viz:

61

No. 19, Original.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN.

On motion of Mr. C. E. Elmquist, in behalf of counsel leave is hereby granted to file the evidence in this cause, and to open and print the same.

December 17, 1917.

And afterwards, to-wit, on the 30th day of March, A. D. 1918, the Supplemental Report of the Commissioner herein, was filed in the words and figures following, viz:

62

In the Supreme Court of the United States, October Term, 1917.

No. 19, Original.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN, Defendant.

To the Honorable the Supreme Court of the United States:

Pursuant to the commission issued to me in the above entitled action, dated the 4th of June, 1917, I do hereby certify and report

my per diem and expenses as commissioner to take the evidence in the above entitled action, upon the basis of \$20. a day for time actually spent in and about the matter entrusted to me, amount- to Four hundred and Seventy Four dollars and Sixty cents (\$474.60); and that the items thereof are fully shown in the bill of particulars hereto attached and made a part of this my supplemental report.

I respectfully ask leave to file this as my supplemental report, and that the same may be considered and acted upon by the court.

Respectfully submitted this 26th day of March 1918.

DAVID E. ROBERTS,

*Commissioner.*

63

SUPERIOR, Wis., January 17, 1918.

The United States of America to D. E. Roberts, Dr.

To the following legal services rendered as Commissioner taking the evidence in the case of the State of Minnesota against the State of Wisconsin, No. 19 October Term, 1917, under a commission issued out of the Supreme Court of the United States dated the 4th day of June 1917.

1917.

July 17. To 1 day's time taking evidence at Duluth, Minn., street car fare and meals.....	\$20.70
July 18. To same.....	20.70
July 19. To same.....	20.70
July 20. To same.....	20.70
July 21. To ½ day's time assorting and arranging exhibits offered in evidence by the State of Minnesota.....	10.00
August 7. To 1 day's time taking evidence at Superior, Wis.	20.00
August 8. To same.....	20.00
August 9. To same.....	20.00
August 10. To same.....	20.00
August 11. To same.....	20.00
August 14. To same.....	20.00
August 15. To same.....	20.00
August 16. To same.....	20.00
September 7. To 1 day's time assorting and arranging exhibits .....	20.00
September 17. To 1 day's time taking evidence in Superior	20.00
September 18. To To same.....	20.00
September 19. To same in Duluth, Minn.....	20.00
street car fare and meals.....	.70
September 19. To same in Duluth, Minn. plus street car fare and meals .....	20.70
September 20. To same in Duluth, Minn.....	20.70

64

September 24. To ½ day's time spent in same at Superior	10.00
October 25. To 1 day's time spent in arranging exhibits	20.00

November 1. To 1 day's time spent making index to the record .....	20.00
November 6. To one day's time spent making index to record .....	20.00
November 7. To one day's time spent making index to record .....	20.00
November 8. To ½ day's time spent verifying index and and noting on the exhibits.....	10.00
December 4th. To 1 day's time spent with the attorneys general of the two states arranging the exhibits for printing .....	20.00
November 28. To cost of telephoning Att'y Gen'l of the State of Minnesota at St. Paul.....	00.40
December 13. To ½ day's time spent overseeing the binding of the record and exhibits, packing and shipping the same to Clerk of Supreme Court, Washington, D. C. ....	10.00
	<hr/> \$474.00

STATE OF WISCONSIN,  
Douglas County, ss:

D. E. Roberts being duly sworn says that he is the claimant above named; and that the above claim against the United States of America is just and true and the disbursements therein mentioned were actually made and no part thereof has been paid.

[SEAL.]

D. E. ROBERTS.

Subscribed and sworn to before me this 18th day of January, 1918.

HENRY L. LLOYD,  
Notary Public, Douglas Co., Wis.

My commission expires Sept. 26th, 1920.

65      Endorsed: Supreme Court U. S., October Term, 1917.  
Term No. 19, Original. State of Minnesota, Complainant,  
vs. State of Wisconsin. Supplemental report of Commissioner as to  
fees and expenses. Filed March 30, 1918.

And afterwards, to-wit, on the 20th day of April, A. D. 1918, an appearance was entered for complainant as follows, viz:



66

*Order for Appearance.*

Supreme Court of the United States.

No. 24, Original Action.


THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN, Defendant.

The Clerk will enter my appearance as Counsel for and as Attorney General of the State of Minnesota.

(Name) CLIFFORD L. HILTON,  
(P. O. Address) *State Capitol, St. Paul, Minn.*

 NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S., October Term, 1917. Term No. 19, Orig. Appearance for Complainant. Filed April 20, 1918.

67 And afterwards, to wit, on the 15th day of May, A. D. 1918, an appearance was entered for the complainant as follows, viz:

68

*Order for Appearance.*

Supreme Court of the United States.

No. 19, Orig'l, October Term, 1917.


STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN.

The Clerk will enter my appearance as Counsel for the Complainant.

(Name) FRANK B. FELLOGG,  
(P. O. Address) —.

 NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S., October Term, 1917. Term No. 19 Orig'l. Appearance for Complainant. Filed May 15, 1918.

69 And afterwards, to-wit, on the 22d day of May, A. D. 1918, a motion to dispense with the reproduction of maps &c., was filed in words and figures following, viz:

Supreme Court of the United States. October Term, 1917.

No. 19, Original.

STATE OF MINNESOTA, Complainant,

VS.

STATE OF WISCONSIN.

*Motion to Dispense with Reproduction of Maps, Etc.*

To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

Now comes the State of Minnesota, by its solicitors and counsel, and moves the court for an order dispensing with the reproduction or printing of the original maps, drawings, and diagrams returned by the commissioner as exhibits to the testimony in the above-entitled cause, and that the clerk of the Supreme Court be authorized to return said original maps, drawings, and diagrams to the commissioner who took the testimony, with instructions that the commissioner permit the attorneys for the respective parties, at their convenience, to duly inspect and examine said original maps, drawings, and diagrams to aid them in the preparation of briefs  
70 for the final hearing, and that when counsel have completed the inspection and examination said commissioner be directed to return said original maps, drawings, and diagrams to the clerk of this court.

Said motion will be brought for hearing before the Supreme Court of the United States, at Washington, D. C., on June 3, 1918, at the opening of the court, at twelve o'clock, on said day, or as soon thereafter as counsel can be heard.

The grounds for such motion are as follows, to wit: That said cause involves the boundary line between the State of Minnesota and the State of Wisconsin in the Duluth and Superior districts, at the head of Lake Superior; that in the taking of testimony in said cause the respective parties introduced in evidence before the commissioner a large number of original maps, drawings, and diagrams illustrating the testimony and cause, which were bound by the commissioner in atlas form and which, it appears from inspection, will be very difficult to reproduce, some of them consisting of old maps now entirely out of print and of which copies cannot be obtained except by reproduction; that it is estimated by the clerk of the Supreme Court to reproduce these original maps, drawings, and diagrams will cost about \$12,000; that the State of Minnesota has no appropriation from which said cost of reproduction can be paid and the State leg-

islature does not meet until the winter of 1919. A similar motion was made in the case of the State of Louisiana vs. The State of Mississippi, at a prior term of this court, and a similar order to that which is prayed for in this case was entered.

Witnesseth this 15th day of May, 1918.

CLIFFORD L. HILTON,  
*Attorney General of Minnesota.*

FRANK B. KELLOGG,  
*Of Counsel for Complainant.*

71 To the Honorable Spencer Haven, Attorney General of Wisconsin:

Please take notice that the foregoing motion will be submitted to the Supreme Court of the United States on Monday, June 3, 1918, at twelve o'clock noon, or as soon thereafter as counsel can be heard.

CLIFFORD L. HILTON,  
*Attorney General of Minnesota.*

FRANK B. KELLOGG,  
*Of Counsel for Complainant.*

Office Supreme Court, U. S. Filed May 22, 1918. James D. Maher, Clerk.

And afterwards, to-wit, on the 25th day of May, A. D. 1918 an appearance was entered for complainant, as follows, viz:

72 *Order for Appearance.*

Supreme Court of the United States, October Term, 1917.

No. 19, Original.


STATE OF MINNESOTA, Complainant,

vs.

STATE OF WISCONSIN.

The Clerk will enter my appearance as Counsel for the Complainant.

(Name) H. B. FRYBERGER,  
(P. O. Address) *Duluth, Minn.*

 NOTE.—Must be signed by a member of the Bar of the Supreme Court United States. Individual and not firm names must be signed.

Endorsed: Supreme Court U. S., October Term, 1917. Term No. 19 Orig'l. Appearance for Complainant. Filed May 25, 1918.

And afterwards, to-wit, on the 3d day of June, A. D. 1918 the following entry appears of record, viz:

No. 19, Original.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN.

On motion of Mr. Frank B. Kellogg, of counsel for the complainant,

It is now here ordered by the Court that leave be, and the same is hereby, granted to dispense with the reproduction or printing of the original maps, drawings and diagrams returned by the Commissioner as exhibits to the testimony in the above entitled cause, and that the Clerk of this Court be, and he is hereby, authorized to return said original maps, drawings and diagrams to the Commissioner who took the testimony with instructions to permit the counsel for the respective parties at their convenience to duly inspect and examine said original maps, drawings and diagrams to aid them in the preparation of the briefs for the final hearing, and when counsel have completed the inspection and examination said Commissioner is hereby directed to return said original maps, drawings and diagrams to the Clerk of this Court.

June 3, 1918.

a

Supreme Court of the United States.

No. 24, October Term, 1916.

No. 19, October Term, 1917.

THE STATE OF MINNESOTA, Complainant,

vs.

THE STATE OF WISCONSIN, Defendant.

To the Honorable the Supreme Court of the United States:

The undersigned commissioner appointed by an order entered in this cause on the 4th day of June, 1917, to take and return such evidence as the parties should produce, respectfully return to the Court that, pursuant to the said order he on the 17th day of July, 1917, opened the commission conferred on him, and counsel for the respective parties being present, proceeded to execute the said commission on that day *that day* and on various other days, in a court room in the Court House in the City of Duluth, Minnesota, and in the Federal Court Room in the Federal Building at Superior Wisconsin,

until the 24th day of September, 1917, on which last named day the parties not offering any more testimony the taking of the evidence was closed.

The commission was executed by receiving the testimony of the several witnesses named in the testimony who were all duly sworn before giving their evidence and the testimony so given by them was taken down by competent stenographers in the presence of the commissioner and the same is herewith submitted (in duplicate) in three bound volumes attested by *me* signature with the exhibits offered and therein mentioned bound in three volumes, two of which are marked Wisconsin Exhibits and One Minnesota Exhibits, all attested by my signature.

b

And the testimony and exhibits are herewith sent to and deposited with the clerk of this honorable Court.

Dated at Superior, Wisconsin, this 13th day of December, 1917.

DAVID E. ROBERTS,  
*Commissioner.*

c Rec'd July 18, 1917. D. E. Roberts, Com'r.

Supreme Court of the United States.

No. 24, Original, October Term, 1916.

THE STATE OF MINNESOTA, Complainant.

VS.

THE STATE OF WISCONSIN, Defendant.

Office Supreme Court, U. S. Filed Jan. 28, 1918. James  
Maher, Clerk.

*Record of Testimony and Proceedings.*

First Day, July 17, 1917.

1 Rec'd July 18, 1917. D. E. Roberts, Commissioner.

Supreme Court of the United States.

No. 24, Original, October Term, 1916.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN, Defendant.

*Record of Proceedings Had and Testimony Introduced in the Ab-  
Entitled Action Before the Honorable David E. Roberts, Com-  
missioner Appointed to Take the Evidence, at the St. Louis Cou-  
Court House, in the City of Duluth, Minnesota, on the 17th  
of July, 1917.*

Present, the Commissioner and others.

Appearing on behalf of the complainant:

The Honorable Lyndon A. Smith, the Attorney General of  
State of Minnesota, Messrs. H. B. Fryberger and W. D. Bailey,  
Duluth, Minnesota, and Mr. Louis Hanitch, of Superior, Wisconsin.

Appearing on behalf of the defendant:

The Honorable Walter C. Owen, the Attorney General of the St-  
of Wisconsin, Mr. H. V. Gard, Corporation Counsel of Superi-  
Wisconsin, Mr. T. T. Hudson, of Duluth, Minnesota, and Mr. I-  
man T. Powell, of Superior, Wisconsin.



The Commissioner: If you are ready, you may proceed, gentlemen.

- 2 Attorney-General Smith: If the original order is here, it would be proper to file the same at this time.

The Commissioner: I have the original order.

Attorney-General Smith: It should be noted that it is present.

The Commissioner: I will file the order at this time. It reads as follows:

Supreme Court of the United States.

No. 24, Original, October Term, 1916.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN.

On motion of Mr. Charles R. Pierce, of counsel for the complainant, and in pursuance of the stipulation of counsel for the respective parties to this cause,

It is now here ordered by the Court that David E. Roberts, Esquire, of Superior, Wisconsin, be, and he is hereby, appointed the Commissioner to take and return the testimony in this cause to this Court, without findings of fact or conclusions of law; that he shall be allowed not to exceed twenty dollars (\$20.00) per diem for his compensation, together with his actual traveling and reasonable hotel expenses, and itemized statement of which shall be submitted to this court in his final report, the payment of such compensation and expenses to be made in such manner as the Court may hereafter direct.

- 3 It is further ordered that the complainant may take testimony in chief at such place as it may indicate between July 5, 1917, and August 1, 1917, upon giving ten days' notice of the time and place to the counsel for the defendant, and that the defendant may take testimony at such place as it may indicate between August 1, 1917, and August 25, 1917, upon giving ten days' notice of the time and place to the counsel for the complainant.

It is further ordered that the complainant may take testimony in rebuttal between August 25th and September 15th, 1917, and that the defendant may take testimony in surrebuttal between September 15th and October 1, 1917, at such times and places as they may respectively indicate by ten days' notice to opposing counsel.

It is further ordered that the above set forth times designated for taking testimony may be varied by consent of counsel, which shall have the same effect as an order entered by this court when entered upon the record before the Commissioner.

It is further ordered that a competent stenographer shall be furnished by each party to the Commissioner, who shall be under the direction and supervision of the Commissioner, and such stenographer shall furnish four copies of the testimony as soon as possible after

the taking of each portion thereof, one for each of the parties and two for the Commissioner.

Subpoenas may be issued out of any United States District Court, effective throughout the United States.

June 4, 1917.

A true copy,

Test:

[Seal of the Supreme Court of the United States.]

JAMES D. MAHER,

*Clerk of the Supreme Court of the United States.*

4 The Commissioner: Nothing was said to me as to whether an oath should be taken by the Commissioner, but as a matter of fact I have made an oath, in duplicate, and will file the same. It reads as follows:

In the Supreme Court of the United States.

THE STATE OF MINNESOTA, Complainant,

VE.

THE STATE OF WISCONSIN, Defendant.

STATE OF WISCONSIN,

*Douglas County, ss:*

I, the undersigned, having been appointed by the Court the Commissioner to take the evidence in the above entitled action, do solemnly swear that I will support the Constitution of the United States, and that I will to the best of my ability perform the duties of Commissioner to take the evidence in this action, so help me God.

DAVID E. ROBERTS.

Subscribed and sworn to before me this 16th day of July, 1917.

HENRY L. LLOYD,

[NOTARIAL SEAL.]

*Notary Public.*

My Commission expires Sept. 26th, 1920. Douglas Co., Wis.

The Commissioner: Are there any stipulations that you would like to enter upon the record at this time? I suppose an oath should be subscribed by the reporters.

5 Attorney-General Smith: I will make this statement for the record: The State of Minnesota furnishes to the Commissioner as its stenographer required by the order of the court herein to be furnished, Mr. Robert S. Taylor of Duluth, Minnesota, and the State of Wisconsin furnishes as its stenographer Mr. James R. Hyle, of Superior, Wisconsin.

It was agreed by counsel for the respective parties that each of the stenographers would take in shorthand and reduce to type-writing one-half of each day's proceedings and that the record would be prepared daily and submitted to the Commissioner for examination and the corrections of such errors, if any, as might occur.

The stenographers took and subscribed an oath, as follows:

In Supreme Court of the United States.

THE STATE OF MINNESOTA, Complainant,

VS.

THE STATE OF WISCONSIN, Defendant.

STATE OF MINNESOTA,

*St. Louis County, ss:*

We James R. Hile, official reporter of the Eleventh Judicial District of Wisconsin, and Robert S. Taylor, official reporter of the Eleventh Judicial District of Minnesota, employed as official stenographers in the above entitled action to take the evidence  
6 under David E. Roberts, the Commissioner appointed to take the evidence, do, each of us, solemnly swear that we will support the Constitution of the United States and that we will well and truly perform the duties of stenographer or reporter in this cause to the best of our several abilities, so help us God.

JAMES R. HILE,  
ROBT S. TAYLOR.

Subscribed and sworn to before me this 17 day of July, 1917.

D. E. ROBERTS,  
*Commissioner.*

The Commissioner: I take it that this rule will prevail: That objections to evidence will be noted briefly, without argument; in other words, the equity rule will prevail, the same as it would in the taking of depositions.

Attorney-General Smith: Yes, I think so, except as to materiality.

Mr. Fryberger: The Commissioner cannot rule on anything.

The Commissioner: I cannot rule on anything. All I can do is to take any evidence that may be offered.

Mr. Fryberger: In the logical order of things the State of Minnesota would call an official from the United States Engineer's office to identify a number of maps; but they have requested us to defer so  
7 doing until tomorrow morning, as they are making up their monthly report and cannot get away from the office. So, on behalf of the State of Minnesota, I would like to call at this time Mr. John G. Howard. I want the record to show this in a little out of order, but it seems necessary owing to the condition of affairs in the Engineer's office.

8 JOHN G. HOWARD, was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. Your name is John G. Howard?

A. Yes, sir.

Q. Where do you reside, Mr. Howard?

A. Duluth, Minnesota.

The Commissioner: Give your postoffice address. We might want to reach you again.

Witness: 1431 East Superior Street, Duluth, Minnesota.

Q. You are a married man?

A. Yes, sir.

Q. You have lived here how long at the head of the lake?

A. Fifty-nine years.

Q. What is your age?

A. I will be sixty-one in November next.

Q. What was your father's name?

A. John D. Howard.

Q. And he has been dead a good many years?

A. Yes, sir; about twenty-odd years.

Q. What is your business, Mr. Howard?

A. My business now is lands; I used to follow the water, sail.

Q. You have been engaged in the mineral land business, largely in Cook County, for many years last past; have you not?

A. Yes, sir; I have.

Q. And have purchased many thousands of acres of land there for yourself and others?

A. Yes, sir.

Q. And you are still in that business?

A. I am.

Q. How long have you been engaged in the iron-land business?

A. About twenty years.

9 Q. You have also been connected for several years last past with the Yawkey Iron interests?

A. Yes, sir.

Q. Briefly, without going into details, state in what way, if you will. I do not care to inquire into any of your private affairs at all.

A. Well, I purchased about 70,000 acres of land for them on the different ranges here, and looked over different ranges in Wisconsin and Minnesota, with a view of purchasing, and have purchased some in other places.

Q. The Yawkeys are interested in corporations that are operating large iron mines in this state?

A. Yes, sir.

Q. And were originally large timber operators?

A. Yes, sir.

Q. Now, what was your father engaged in, prior to his death, while you were a boy?

A. He had a store in Superior in the early days, a mill and lumber.

Q. In Superior, Wisconsin?

A. In Superior, Wisconsin.

Q. Can you tell about what time he started there?

A. Oh, I think it was in '55.

Q. 1855?

A. 1855; yes, sir.

Q. That he came to Superior?

A. He came to Superior.

Q. And about how long did he continue in business in Superior, Wisconsin?

A. I don't know; a great many years; I am not able to say just how many.

Q. It was before your time, anyway, that he came there?

A. How?

Q. Do you remember when he came to Superior?

A. No, I do not. I was just a baby, in Vermont, and he came before my mother and I came.

10 Q. He came from Vermont?

A. Yes.

Q. Now, when did your father come to Duluth, about when?

A. I don't know just exactly; probably 1870.

Q. And did he live in Duluth, Minnesota, continuously, from the time he came here until his death?

A. Yes, sir.

Q. What was his business after he came to Duluth?

A. Why, he did not do very much business. He had quite large tracts of land situated around the bays here and down the lake—pine, and he disposed of that; sold the land and—

Q. Well, he was a very large real-estate operator at the time of his death, was he not?

A. He was.

Q. And had been for many years prior to that time?

A. Yes.

Q. Was he ever in the timber business?

A. Yes, sir.

Q. For about how long? State in a general way what he did while you were a boy, with reference to the getting out of logs and timber around the bay involved in this action.

A. He had a sawmill where the shipyard is now.

Q. In Superior, Wisconsin?

A. In Superior, Wisconsin.

Q. That is on Connor's Point?

A. That is on Connor's Point, on the point side. They used to call that Howard's pocket—I guess they do yet.

Q. Yes, that little bay in there is called Howard's pocket.

A. Had that full of logs from the time I can remember, for years.

Q. Where is Howard's pocket with reference to what was originally known as the town of West Superior and the bay of Superior? I would like to have that described on the record, if you will.

11 A. Connor's Point runs right along parallel with Superior Bay, and Howard's pocket is right on the west side of it.

Q. That is, Connor's Point separates Superior bay from Howard's pocket?

A. Yes.

Q. For how long a time did your father operate that mill, in a general way?

A. I could not say. I should say ten, twelve or fifteen years.

Q. Where did he get his logs for that mill?

A. Around where West Superior now stands, and above there.

Q. On the bay of St. Louis?

A. On the bay of St. Louis, in Wisconsin.

Q. Upper and lower St. Louis bay?

A. Well, both; upper and lower both.

Q. Did he cut any logs in Minnesota, or was it all in Wisconsin?

A. I do not think he ever cut any in Minnesota; I think they were all cut in Wisconsin.

Q. Did you have a brother that was also associated with him or that worked for your father, the same as yourself, in this timber business?

A. Yes, sir.

Q. What was his name?

A. Benjamin F. Howard.

Q. He is now a resident of Saskatchewan?

A. Yes, sir.

Q. And he is in the court room at the present time?

A. He is.

Q. What is your earliest recollection of navigating this bay of St. Louis, the upper and lower bay, as well as the bay of Superior, Mr. Howard, as nearly as you can recollect?

A. Well, I should think 1870.

12 Q. 1870?

A. Yes, sir.

Q. What did you do at that time with reference to the matter of navigating this bay either for yourself or for others?

A. Well, we used to pole these logs down, to get them up to the bay there, and my brother and I used to have to go on the raft there and help pole those logs down, which was a long job, sometimes took us weeks when the wind was not very favorable, very muddy bottom, and could not get along very well.

Q. You and your brother Ben?

A. Yes, with other men.

Q. It was done in rather a primitive method at that time?

A. Yes, sir. Sometimes when the wind was around we used to have to hitch on to the shore and stay there all day and maybe work all night.



Q. For how many years, in a general way, did you and your brother operate in this way on this bay?

A. Quite a good many years; I couldn't say; ten or twelve.

Q. Probably ten or twelve years, working for your father, as boys?

A. Yes.

Q. And how much older was your brother Benjamin than yourself?

A. Four years.

Q. Did he have charge of the boat a good share of the time when you were operating, hauling logs?

A. Well, he had charge of a steamboat we had on there a little later than that.

Q. A little later than that?

A. Yes.

Q. How long did you work with the steamboat on this bay or the bays?

A. Why, we used to take lumber from this mill and go down to Silver Island, Canada, with it, and then when we come back we would spend a few days towing logs down to the mill.

13 Q. For how many summers did you do this?

A. I say three or four, probably.

Q. Now I wish you would explain that a little more fully. For ten or twelve years, as I understand it, you poled your logs down?

A. Yes, sir.

Q. The St. Louis Bay down to the mill and Howard's pocket?

A. Yes, sir.

Q. You and your brother Ben, with other men, did this work?

A. Yes, sir.

Q. Then, later, your father purchased a steamboat?

A. Yes, sir.

Q. What was the name of that boat?

A. The Lottie Bernard.

Q. How much water did that boat draw?

A. I should say she drew seven or eight feet.

Q. How large was it? Describe the boat. Was it a stern screw, or a side-wheeler?

A. A side-wheel boat; I should say 150 feet long.

Q. How much tonnage would she carry?

A. As I recollect, she would carry about 100,000 feet of lumber, or 150,000, or maybe more.

Q. Now, when you sawed this lumber, where was your market for this lumber? Tell in a general way, and briefly.

A. The only market we had for that, we used to raft it down to Superior, down the bay; used to build a raft there. We furnished the lumber for the Superior court house, and that job got quite a little; was built with one board right on top of the other, and we used to put it in the water and pole it down to the bay and

14 pull it out and haul it up to the court house.

Q. That old court house that is there now?

A. Yes.

Q. You built that?

A. Yes.

Q. What about this Silver Island? what was your business there?

A. I guess we furnished all the lumber for Silver Island, for building the piers around it; a small island; they cribbed it all around, and I know we made the trip as often as we could to Silver Island, right along.

Q. For several years?

A. Yes, sir.

Q. How far is that island from the Minnesota boundary line?

A. I should say forty or fifty miles.

Q. And it is a Canadian possession?

A. Yes, sir.

Q. And about how far from the Canadian shore?

A. Well, it is about seven or eight miles, I guess, from Thunder Cape.

Q. What was going on there at that island at that time?

A. They were mining silver there, and the island was very small, and they had to build cribs all around it, to protect it, so as to operate it.

Q. For several years after you got this steamboat—this was a steamboat, as I understand it, this Lottie Bernard?

A. Yes.

Q. You and your brother operated it on this bay?

A. We operated it on the lake and bay both.

Q. The lake and all these bays?

A. Yes, sir.

Q. Could you tell about what years it was you operated this boat on these bays in the lake?

A. I could not say; no, sir.

Q. But you know it was a number of years?

A. I do.

Q. Was it long prior to the time there was any dredging done?

15 A. Oh, yes, there had been no dredging ever done there at all, as far as that is concerned.

Q. None done there at all at that time?

A. No place here.

Q. Were you familiar with the St. Louis Bay, upper and lower, from Superior Bay—that would be Rice's Point—to the Indian village of Fond du Lac, during all that time?

A. Well, not up quite as far as Fond du Lac. We did not go that far. We went up to Big Island, around there.

Q. Big Island.

A. In the early days. I was familiar with it afterwards.

Q. I am talking about your early experience.

A. We went up as far as Big Island; that is about as far as we went.

A map produced by counsel for the State of Minnesota was marked Minnesota Exhibit 1.

Mr. Fryberger: I call counsel's attention to Minnesota Exhibit 1,

and I will ask you, gentlemen, if you will admit that that is an official map of the army engineers of the United States government, at Duluth, Minnesota? I will state now that the lines in red were placed on there, as I understand it, by Mr. Howard himself.

Mr. Bailey: Yes.

Mr. Fryberger: And he will explain those in the course of his testimony. That is a map that was gotten from the United States' Engineer's office of Duluth.

Mr. Bailey: The lettering also of those red lines.

Mr. Fryberger: The lettering on the red lines was placed on there by Mr. Howard. It is the General George G. Meade map of 1861.

16 The Commissioner: Possibly you gentlemen can stipulate that is the Meade map.

Attorney General Owen: We admit the map except as to the red lines.

The Commissioner: It is stipulated that Minnesota Exhibit 1 is the so-called Meade map excepting the red lines, and so forth.

Attorney-General Owen: We admit just what counsel asked us to admit.

Mr. Fryberger: Yes, that is what we want; except the red lines.

Q. I show the witness Minnesota Exhibit 1, and will ask you, Mr. Howard, if you recognize that as a map of the head of the lake, showing the westerly end of Lake Superior, the bay of Superior, St. Louis Bay, and the vicinity surrounding?

A. Yes, sir, it is.

Q. I call your attention to the lines marked in red on this map, from A to C, from B to D, and F to E, and will ask you if you placed those red lines on that map?

A. I did, sir.

Q. When?

A. Yesterday.

Q. At whose request?

A. Why, Mr. Bailey's, I think.

Q. Mr. W. D. Bailey?

A. Yes, sir.

Q. One of the counsel for the State of Minnesota?

A. Yes.

Q. Now I want you to explain, in your own words, just exactly what those lines indicate.

A. They indicate the channels that were navigated from the time I first operated on those waters until the time it was dredged.

17 Q. Until the time it was dredged. Do you recollect about what time it was dredged?

A. No, sir, I do not.

Q. You had quit operating there at the time?

A. I had. I never operated there much. Oh, I have operated there some since it was dredged, but I could not say what year it was.

Q. But you are testifying now prior to the time there had been any dredging?

A. Prior to the time there had been any dredging done; yes, sir.

Q. Go ahead and explain what the line E to F and D, for instance, indicates; from E to F, and then from F to D.

A. That used to be the channel that we worked the boat in to tow the logs down from Little Pokegama here, up in this vicinity, in the early days. (Indicating)

Q. Little Pokegama is marked on the map there?

A. Yes.

Q. That is a bay—Little Pokegama?

A. Yes. We logged in through this country.

Q. You mean the country surrounding Little Pokegama?

A. Yes; and right in here; and we used to work up here with the steamboat. (Indicating)

The Commissioner: Say worked up from A to B; so it will be intelligible on the record.

Q. A. to F indicates what?

A. Where we used to tow the logs through in the early days, from A to F, passing the point E.

Q. From A to F. Then the red line from F to D indicates what?

A. Indicates the channel going up the river.

Q. Now what does the red line from A to B indicate, and  
18 from B to C?

A. That was a channel running up the river also; went around the other side of the island, Big Island.

Q. Big Island?

A. Yes, sir.

Q. That is now called Whiteside also?

A. Yes, sir.

Q. Also called Clough Island?

A. Yes, sir.

Q. And sometimes the Island?

A. Yes.

Q. And sometimes Big Island?

A. Yes.

Q. Now what does the line running from B to F and on to D indicate?

A. That is the junction of the two channels; that one running up around the south channel.

Q. Now, are you familiar, or were you familiar, with the channels that were mostly used by people navigating St. Louis Bay in those early days, when you first started?

A. Yes, sir.

Q. Which was the channel that was used the most during all that time?

A. Shall I use the letters?

Q. Yes.

A. From A to B and to D, and from there on the south side of the island, the Big Island.

Q. Extending on up—where?

A. Extending up through here.

Q. When you say "through here" you mean through the channel which shows the soundings on this map, Minnesota Exhibit 1?

A. Yes, sir.

Q. Up to the southerly part or the southerly end of what is the Island on this map?

A. Yes, sir.

Q. That is the channel that was mostly used, you say?

A. It was always preferable; yes, sir.

19 Q. Was there any other channel used from the point C marked on this map, up the river?

A. Yes, sir.

Q. Or up the bay.

A. Yes, sir.

Q. What?

A. Went right on the same channel.

Q. The channel that is shown on this map by the soundings?

A. Shown on this map by the soundings, yes.

Q. Going northerly of the island as shown on this map?

A. Yes, sir.

Q. And would reach the south channel at what point?

A. At the same point; that would be the southeast point of the Big Island.

Q. The southeast point of the Big Island. Now what was the depth of water in these different channels that you have mentioned here, in a general way, and why was the southerly channel used the most and the most preferable to the mariners and navigators or shippers at that time?

A. It was shorter and just as deep water.

Q. Just as deep water?

A. Yes, sir.

Q. Now I want to call your attention, Mr. Howard, to a deep hole to the northerly of the red line running from A to B, and then from B to C, and will ask you whether or not that was ever used by you or by people running boats generally at that time?

A. I never saw it used, no, sir; never knew a boat to go around there.

Q. What was the condition of that hole at the point just northerly of the point marked C, that is, as to shallowness and there being a bar?

A. Why, there was always a bar across there; it was impossible to get through from the channel down here, to get through into that hole.

20 Q. And then, as I understand your testimony, the sum and substance of it is that that hole to the northerly, shown by these soundings on the map Minnesota Exhibit 1, to the northerly of the line running from A to B and B to C was not used for boats at all?

A. No, sir.

Q. Could you use it for a small boat or row boat?

A. Boats could go in there; I guess they towed logs out of there, and one thing or another, but they went in from this way.

Q. That hole is more particularly described on this map, Minnesota Exhibit 1, as a sort of a half circle, starting from the line A to B and running around to the point C marked on the map.

Attorney-General Owen: Why don't you letter that, put in another letter there?

(The point indicated was marked by the witness with the letter G in red ink.)

The Commissioner: Is that what you mean, the point marked by the letter G?

Witness: Yes.

Mr. Fryberger: Yes, that is what I mean.

Q. Mr. Howard, does the hole run entirely up to the point marked C?

A. No, sir.

Q. But runs in that direction?

A. Yes, sir.

Q. Now what is the fact with reference to the channels and currents in this bay changing a great deal from time to time?

A. Why, there are currents out of all of these inlets or little inlets in there, that run out and make deep places.

21 Q. What is the nature of the bay, the bottom of the bay of St. Louis, both upper and lower?

A. Why, very soft and muddy.

Q. State more specifically, if you can, about the shifting of the bottom and the scouring of the different channels.

A. My opinion is—and I sounded more or less up there at the time we were running excursion boats up—that the channel shifts considerably there in different places; I found it so.

Q. Numerous channels or holes all through the bay?

A. Yes, sir.

Q. What about the current in this bay? If there ever was current, when did it occur?

A. At the time we had freshets in the spring of the year, currents running both ways, and sometimes up; sometimes when we had northeaster, sometimes the current running up, and sometimes down.

Q. How far did this dead water, so to speak, continue up this bay towards Fond du Lac?

A. Well, up to the Big Island.

Q. Up to the Big Island?

A. Yes, sir.

Q. What is the difference in the color of this water in the St. Louis Bay and in the lake, in the summer time, if there is any?

A. Different than in Lake Superior?

Q. Yes.

A. Oh, there isn't very much difference, only this upper water very dark.

Q. And the lake water is blue?

A. Yes.

Q. How far would this blue water come up at different times?



A. I never saw it up there.

Q. How far would it come up?

A. I have only seen it in the bay up here. (Indicating)

Q. But it would be more or less colored in St. Louis Bay,  
23 upper and lower, at all times?

A. Yes, at all times.

Q. Will you describe what you mean by the Upper bay and the Lower bay?

A. Grassy Point divides the two bays. East of Grassy Point is Lower St. Louis Bay and to the west of it would be Upper St. Louis Bay.

Q. What is the character of the shores of this bay? I call your attention with special reference to whether or not the shores have the characteristics of a river or of a lake, with reference to being lines that usually follow a river or where a river usually flows.

A. A bay, I should call it; they always called it a bay, and I cannot see that it should be called a river.

Q. Was it commonly and always known as a bay?

A. Yes, sir.

Attorney-General Owen: I do not think you should ask such leading questions right along, Mr. Fryberger, as you have been asking.

Mr. Fryberger: I will try not to transgress very much.

Q. Now state whether or not this map shows correctly the indentations along this bay.

A. I think it does; yes, sir.

Q. And what is the fact about there being a great many, especially on the Wisconsin shore?

A. There a quite a number of them on both shores; more on the Wisconsin shore.

Q. And state what you have to say with reference to these indentations, that is, as forming part of your opinion as to whether these shores have the characteristics of river shores, or banks, or lake shores.

A. The characteristics are of a lake or bay, wholly.

Q. Now, you spoke about operating on this bay at a later  
23 time when you ran a different kind of a boat, as I understand it.

A. Yes, sir.

Q. When was that, Mr. Howard?

A. Well, I think that was in 1886 to 1890.

Q. Was anyone associated with you in that business?

A. Captain Flynn.

Q. Captain Flynn. Is he here in the court room at the present time?

A. Yes, sir.

Q. What kind of a boat was that?

A. That was a side-wheel boat.

Q. Was that prior to the time this dredging had taken place by the government?

A. Yes, it was,

Q. How large was that boat?

A. Well, I don't know. She is over 100 feet long anyway.

Q. And what did you use it for?

A. Excursion business.

Q. And running from where to where?

A. Oh, running from Duluth here to Fond du Lac—well, we never got quite to Fond du Lac; that turn in the river where the saw-dust had got in, we never made that. We ran just this side of Fond du Lac, a little ways. We had a landing there and put the people off.

Q. Did you haul anything but passengers?

A. That is all.

Q. That is all?

A. Yes.

Q. How much water did the boat draw?

A. Oh, I should say she drew six or seven feet.

Q. What channels did you use in navigating that boat?

A. Why, we used the channel from A to C.

24 Q. A to C?

A. Yes, sir; and then on up.

Q. That is, took the channel to the northerly of the island as shown on this map?

A. To the northerly of the island.

Q. Did you ever go around the other way?

A. Yes, sir.

Q. In what way?

A. Went around from A to B and then to D.

Q. B to D?

A. And on up.

Q. I will ask you whether or not in going up from Grassy Point you took what is known as the South Channel, going to the south of the island, as shown on this map, and the channel on the north of the island; always took the channel marked on this map as A to B?

A. Yes, sir.

Q. I will ask you whether or not that was the practice of all the boats—

A. It was the practice of all the boats.

Q. —drawing heavy draft.

Mr. Fryberger: I would like to state to the gentlemen present that I am producing a map which is about worn out. I have had a photograph of it taken and I suppose the photograph will be ready by this afternoon. I would like to use this map to a certain extent before we get the photograph. Mr. Howard desires to keep this map. It is an old one of his father's, one of the original Bardon maps. Will there be any objection to my doing that? I will have it marked, if you wish, but I would like to have it understood that we will withdraw it and use the photograph when it gets here.

The Commissioner: Will you identify it in some way?

25

Mr. Fryberger: We will have it marked Exhibit 2, with the understanding that we are to withdraw it and use a photograph.

The Commissioner: Yes.

Mr. Hudson: I suppose the map itself will be subject to the objection of immateriality when it is offered. The witness is going to testify from memory now, I understand.

(The Bardon map, produced by Mr. Fryberger, was marked Minnesota Exhibit 2.)

Q. I show you Minnesota Exhibit 2, and will ask you what that map is.

A. That is the map that my father used to have. Since his death I have had it.

Q. In your office?

A. In my office.

Q. Do you know the date that was on that map originally, before it was worn off?

A. I do not, sir.

Q. But it is a very old map, is it not?

A. It seems to be. I know it is an old map.

The Commissioner: Is it more than thirty years old?

Witness: I should say it is around there somewhere. My father died in 1892.

Mr. Fryberger: Yes; it must be more than forty.

Witness: My father has been dead twenty-five or twenty-six years. I should say the map is over thirty years old.

Q. Did he use that map himself before his death?

A. Yes, sir.

Q. Did you boys use that map any at the time you were——

A. Oh, no.

Q. You used the boat and the water, eh? Now what is 26 that map known as? What is the name of it?

A. The head of Lake Superior.

Q. Yes, I know, but published by whom?

A. Published by James Bardon.

Q. Was that a map that had wide circulation at that time, used a great deal here at the head of the lakes?

A. Oh, I could not say, Mr. Fryberger, about that.

Q. Who was James Bardon?

A. He lived in Superior. I think he published a paper at that time.

Q. Well, he was the man that published that map?

A. He was the man that published this map, I suppose.

Q. Now, I call your attention to that line starting out in Lake Superior as shown by Minnesota Exhibit 2, marked the "state boundary," this dotted line between Minnesota and Wisconsin, running through the channel, the old channel, between the bay of Superior and the lake, and then running up practically the center of the bay of Superior, through between Rice's Point and Connor's Point, then through practically the center of St. Louis Bay, and on up I guess nearly to Fond du Lac. I will ask you if that line was on there at the time you first saw that map?

A. Yes, sir.

Q. What was the common understanding at that time, Mr. Howard, about that being the state line between the State of Minnesota and the State of Wisconsin?

Attorney-General Owen: I object to that as incompetent, irrelevant, immaterial, and on the further ground that the witness is not competent to testify.

The Commissioner: Go ahead and answer.

Q. You may answer.

A. That was considered by everybody to be the boundary line between the two states.

Mr. Fryberger: I have several more maps that are being photographed, and I believe I will wait for those photographs. I will probably get them this afternoon. I would rather do that.

Mr. Bailey: You have not offered this yet.

Mr. Fryberger: I will not offer this until I get the photograph.

Q. I will ask you one more question. How far below Fond du Lac did that dead water start, that is, where the bay commenced and the river left off? About how far, in your opinion?

A. Well, I don't know. I don't know what this scale here is.

Q. Just about; you can mark it on the map.

A. As nearly as I can say it would be just about below the Big Island there.

Q. Below the Big Island?

A. Yes, sir, where I testified before. I could not give you the miles here. If you went around by the river it would be a good deal farther than it would be straight across.

Mr. Fryberger: I think that is all. There may be some other questions we will want to ask Mr. Howard later on.

(A short recess was here taken.)

Another map produced by Mr. Fryberger was marked Minnesota Exhibit 3.

Mr. Fryberger: Gentlemen, I wish to ask you with reference to Minnesota Exhibit 3 whether or not it will be admitted that that is a map from the office of the United States Engineers, in the City of Duluth, showing the locus in quo in this case?

Attorney-General Owen: Is this another map?

Mr. Fryberger: This is another map, 1912. It is approved by the War Department, isn't it? All I want you to do, is to admit that it is a map from the office of the Engineers, and save us calling one of the engineers. I will add to that statement: Excepting the red lines which have been placed on this map by Mr. Howard, the same as the prior map.

Attorney-General Owen: We will admit that, what Mr. Fryberger asks us to admit.

By Mr. Fryberger:

Q. Mr. Howard, calling your attention to Minnesota Exhibit 3, I will ask you if you recognize that as a map of the head of the Lakes?

A. Yes, sir.

Q. Including the bay of St. Louis, upper and lower?

A. Yes, sir, it is.

Q. Have you seen this before?

A. Yes, sir.

Q. Did you place those lines in red on this map?

A. I did.

Q. When?

A. Yesterday.

Q. At the request of whom?

A. Mr. W. D. Bailey.

Q. And you put the lettering on, did you?

A. Yes, sir.

29 Q. Calling your attention to the line in red marked A to B and extended on from B to C, I will ask you what that line indicates?

A. That line indicates the course of the channel that was taken to go up the river, to take the north channel.

Q. Prior to the time.

A. Prior to the time there was any dredging done.

Q. I will ask you what the red line from E to F indicates?

A. E to F, that was an old channel that went around there in the early day. I notice by this map that it is filled up in places since.

Q. That is, to the south of the letter F it is filled up?

A. To the south of the letter F.

Q. But there was a channel all the way through there?

A. In the early days a channel went all the way around in about the direction I have marked here, from the letter E to the letter F; you could go through there with the Lottie Bernard.

Q. You say you could go through there with the Lottie Bernard?

A. Yes, sir.

Q. Drawing about how many feet of water?

A. About seven feet.

Q. What is the red line from A extended on to B and from B to D? What is that continuous line?

A. That indicates the same channel, only leaving that channel at B and taking the south channel up the river, around the other way.

Q. Now, what is this line running from the Superior entry, in white, simply colorless—

A. Yes, sir.

Q. White paper; running through the bay of Superior, with figures on it, evidently soundings, and running through lower

30 St. Louis Bay and on up upper St. Louis Bay, clear up as far as Spirit Lake; what does that indicate?

A. That indicates the channel.

Q. That is the dredged channel?

A. Well, of course it is dredged from here up to—

Q. When you say "here" that is the Superior entry?

A. The Superior entry, up to Big Island—somewhere there.

Q. Where it shows white?

A. Never was dredged in here where it shows white.

Q. State whether or not that dredged channel followed the original channel all the way?

A. Well, practically it did.

Q. It shows some places different, does it not, on the map?

A. Yes, it shows different down here. (Indicating.)

Q. That is northerly of Big Island?

A. Northerly of Big Island, it shows there the channel, clear around on the inside of that—

Q. Of that little island?

A. Of that little island.

Q. Let us mark that little island while we are at it.

A. What do you want to mark it?

Mr. Fryberger: What is the last we have got marked there?

The Commissioner: G was the last one.

Mr. Fryberger: We will mark it something else.

Witness: We had it G on the other one. Do you want it G here?

Mr. Fryberger: No, I want this island marked K.

(The same was marked by the witness as requested.)

Mr. Fryberger: It is marked K.

31 Q. Now, where did the north channel, what you call the north channel—

Attorney-General Owen: I do not see any K on there.

Witness: Well, it is right there, but I put the blotting paper on it.

Q. Where did the north channel—that is, what was known as the north channel at that time—pass through this island that you have marked K? To the westerly of the letter K?

A. Yes, sir, just to the westerly of the letter K.

Q. That channel has filled up since that time?

A. I don't know much about it. Yes, I know it is filled up there.

Q. But you know it was a channel at that time?

A. It was a channel at that time. And then the channel changed again, here. (Indicating.)

Q. When you say "here" you mean that one between the two islands marked "Sand Island"?

A. Yes, sir.

Q. There are two islands each of which is marked "Sand," and the channel went between the two islands marked "Sand"?

A. Yes.

Q. And to the northerly of the westerly island marked "Sand"?

A. Yes. You ask me if there was any change. There was a change there between those sand islands.

Mr. Fryberger: Mark the Big Sand Island, L.



(The witness marked as requested.)

Attorney-General Smith: May I ask a question? Is the one marked L right west of the red spar No. 32?

Mr. Bailey: What?

32 Attorney-General Smith: Red spar, marked Rep. No. 32.

Mr. Fryberger: I do not see that, General.

Attorney-General Smith: It is right on the north side of the dredged channel.

Mr. Fryberger: Is that 32? I cannot see it. The map is broken at that point.

Attorney-General Smith: Yes.

Mr. Fryberger: This is the one, that is marked L. The map is broken there; we cannot see the number.

Q. Now, calling your attention to Minnesota Exhibit 3, and this hole showing deep water, extending from the red line between A and B, I will have you mark that G on this map at the point.

A. Right here? (Indicating.)

Q. Yes, right there.

(The witness marked as requested.)

Q. Put that down a little farther; make more of a tail to that G; bring it down towards you. Now that is G all right, I guess.

A. Yes.

Q. Now, calling your attention to the channel, starting at the point G, and running northerly, and coming around through Carnegie coal dock marked on the map, and another place marked "Coal dock," I will ask you if that channel connected up with the channel at the point marked "C" by you?

A. No, sir.

Q. Where was the bar that shut off this hole, running from the north of G?

A. The bar was just above this island, somewhere close to—

The Commissioner: What island?

33 Witness: Well, that island; we have not got any mark on it.

Q. Well, we will put a mark on it right now. We will mark that island "N".

(The witness marked an "N" at the point, as requested.)

Q. A bar, you say, was to the north?

A. To the north of island "N".

Q. But those other little islands, three in number, north of the island marked "N", were they there in those early days when you were familiar with the situation?

A. I think so. I would not say for sure. There was a lot of rushes and boggy places in there.

Mr. Fryberger: We will offer in evidence Minnesota Exhibit 3, being the Lydecker map of date 1912.

Attorney-General Owen: It being understood that the red lines are no part of the map?

Mr. Fryberger: The red lines were put on by Mr. Howard for illustrative purposes.

The Commissioner: The map may be received, with the understanding that the lines and the lettering were put on by the witness.

Mr. Fryberger: That is all, Mr. Howard.

Cross-examination.

By Attorney-General Owen:

Q. Mr. Howard, when did you first commence navigating these waters?

A. When I was a boy.

Q. How old?

A. About eight or nine years old.

Q. What time was that?

A. Well, it must have been around '68, '9, or '70, some  
34 where along in there.

Q. '68, did you say?

A. Yes.

Q. What was the nature of your navigating at that time?

A. Well, as I said I used to pole rafts and row small boats. We had no steamboats here then.

Q. Where did you form these rafts?

A. Up the shore, along little Pokegama and where West Superior would be at the present time, in Wisconsin.

Q. The logs were dumped into Pokegamá Bay?

A. Some of them, and along anywhere on the shore, off where West Superior now stands, where the coal docks are.

Q. And you formed your rafts in these bays?

A. Yes, sir.

Q. Where the logs were put in the water?

A. Yes, sir.

Q. Now, when you were eight or nine years old, what did you do on these rafts?

A. Well, I generally did the cooking there and had to do poling besides.

Q. How much poling did you do?

A. Well, I did about as much as anybody did. A boy had to do a man's work them days.

Q. What course would your raft take formed in Pokegama Bay, for instance? Where would you take these rafts to—to your mill at Howard's Pocket?

A. Yes, Howard's Pocket; just take them along the shore and pole them.

Q. What course did your rafts take?

A. We just followed the shore.

Q. Just followed the shore right along. In those days you did not know much about channels, did you?

35 A. Well, all we knew about them was when we would get our poles in deep water, lots of places there, and I know my father knew afterwards about these channels because he took the boat up there.

Q. Now, you are not to testify what your father knew.

A. No.

Q. You are just to testify what you know.

A. All right.

Q. You did not pretend to follow any channel when you were coming down with these rafts?

A. No, sir.

Q. There was plenty of water anywhere to float your rafts?

A. Always had a line on the shore to hold them against the wind.

Q. So far as your raft enterprise was concerned you did not learn much about continuous channels, did you?

A. No, sir.

Q. Now how long did you continue in that rafting business?

A. Well, for a number of years.

Q. How many years?

A. Well, ten or twelve, I should say.

Q. That would take it up to about 1880?

A. 1880; yes, sir.

Q. And during that time that was about all the work you did on that water?

A. Well, I don't know whether we had that steamboat there before 1880 or not.

Q. You would not swear that you did?

A. No, sir. Along about that time, though.

Q. Well, you think you got the steamboat along about 1880?

A. Well, I think so; yes, sir.

Q. Do you remember how old you were when you got the steamboat?

A. Well, in 1880 I was about 23 years old.

Q. And what job did you have on the steamboat.

A. I was wheelsman

Q. Pilot?

A. No, sir, not pilot; wheelsman.

36 Q. What was the nature of that work?

A. Well, to steer the boat.

Q. How do you distinguish that from pilot?

A. A pilot tells us where to steer.

Q. Were you wheelsman right off as soon as you got the boat?

Was that your first work on the boat?

A. I remember I wheeled her down the lake and up the river, both. I could not say as I did right away; no, sir.

Q. Can you give us some idea as to what year you commenced operating that boat as wheelsman?

A. Well, it was before 1880.

Q. Before 1880?

A. Yes, sir.

Q. You think you were mistaken a moment ago when you said you got the boat in 1880?

A. Well, I tell you: I know it was before 1880 because I was married the fall of 1880. It was before I was married.

Q. How long before?

A. Well, a number of years. I should say it must have been '72 to '74 or '6, along there, that we had that boat—thinking it over.

Q. Then how old were you?

A. I would be 15 or 16 years old.

Q. Did you tow these rafts down to the boat after you got it?

A. Yes, sir.

Q. Then how long were you poling the rafts down?

A. Well, I don't know; a few years there; I cannot designate any time between the time we got the boat and the time we were working along on the rafts there; I have not looked it up at all. I did not know anything about testifying in this case at all. I can  
37 look the dates up, though, I think, and get them pretty accurate.

Q. How would you verify the date you got your steamboat, for instance?

A. Well, I think I can find some of my father's books and look them over and see where we took the lumber down the lake—things of that kind.

Q. Now, did you act as wheelsman as soon as he got the boat?

A. I could not say.

Q. Was that your first—

A. I could not say whether I did or not. I would not be surprised, but I was wheeling probably the first year we had her.

Q. Have you got any way of telling that?

A. No, sir, I have not; not the first year.

Q. Was that first boat on the bay?

A. No, I guess not.

Q. How many other boats were there on the bay at that time?

A. I could not tell you just how many other boats there were here. I guess the Agate and the Amethyst were here, a couple of small tugs.

Q. How long had they been here before you got yours?

A. I could not tell you.

Q. Have you any idea how long they had been on the bay before you got your boat?

A. No, I have not. I know I was a boy when the Agate first came here.

Q. Were there any other boats on the bay besides those you have mentioned?

A. Why, yes, there were other boats across here.

Q. What were they? What were their names?

A. I think there was one named the Kasota; I am not sure.  
38 Q. What other ones?

A. I was trying to think of their names. Well, sir, I can't tell you the names of any others.

Q. What did those boats do?

A. The Kasota used to run between Superior and Duluth.

Q. What did the other boats do?

A. I did not tell you that I knew of any other boats.

Q. You mentioned three, I think.

A. Well, the Agate and the Amethyst were small tugs. They did towing business.

Q. What did they tow?

A. Towed logs. I don't know what they did.

Q. You don't know what they did but they were towing-tugs, small tugs. How familiar were you with those boats and what they did and where they ran?

A. These other boats? I was not very familiar with them.

Q. Do you know how much water they drew?

A. I don't know exactly; no, sir. I guess they drew around six feet, or seven.

Q. That is just your guess?

A. Well, I know that must be about their draft. I have known them for years since.

Mr. Fryberger: What was that?

Witness: I have known them since that time, here; they have been right here in the harbor for a good many years afterwards. I know they must draw around six or seven feet of water.

Q. How much did your boat draw?

A. She drew about seven feet, light.

Q. Now what did you say was the name of your boat?

A. The Lottie Bernard.

39 Q. After you got the Lottie Bernard you used her to tow the logs down Superior bay?

A. From St. Louis bay.

Q. Yes, I mean St. Louis bay. And were most of those logs rafted in Pokegama Bay?

A. Rafted right along the shore there.

Q. How many trips would you make up the bay during the season?

A. Well, we did not make very many. Generally towed enough down (we had a small mill) to last us. We did the most of the running on the lake.

Q. Give us your best estimate of the number of trips you made up the bay?

A. Well, say six or eight, probably.

Q. During the season?

A. Yes, sir.

Q. Now, during that time did you see any other similar craft?

A. There was not any other similar craft at that time.

Q. So that so far as you know of steamboat navigation during that time, your knowledge is confined to your own boat, which made six or eight trips a season up as far as Pokegama Bay?

A. In the early days, yes, sir.

Q. Now, you say in an early day. Fix the years that you have in mind when you make that statement.

A. Well, say up to 1885.

Q. 1885, and beginning in what year?

A. Well, say beginning in '70 to '85.

Q. From 1870 to 1885. You think you got your boat about 1870, do you?

A. I mean the rafting and all and my experience on the bay; that is what I had reference to.

Q. I was just talking about steamboat experience.

A. Then, what is the question?

40 (The pending question was read by the reporter.)

Q. That is, your steamboat experience.

A. About '73 or '4.

Q. And extending up to 1885?

A. Well, no, I don't think we had the boat that long.

Q. Well, that is what you said a few moments ago. Now do you want to correct that?

A. Well, I am saying I had no other experience than on that boat, that is, the steam boat, until 1885.

Q. From 1873 or 1874 up to 1885?

A. Up to 1885.

Q. Well, was your experience with this boat continuous and uniform from 1873 to 1885?

A. Well, all the time we had the boat I was up that river every year on it.

Q. How many years do you think you had the boat?

A. I am not able to tell you, sir.

Q. What is your best judgment?

A. I should say somewhere between seven and ten years.

Q. Now, in that work you did not pay any attention to channels, did you?

A. Yes, you bet we did.

Q. What?

A. We certainly did.

Q. In towing your raft down, did you pay any attention to channels?

A. Why, certainly.

Q. And you took the channel that you indicated in red lines on that map?

A. Why, when we went up the shore; yes, sir.

Q. What?

A. Yes, sir.

Q. That is the route you always took in towing your logs down?

41 A. Why, no; we generally tried to come down the south channel marked there—I can't tell you just what the letters are. I can tell you there by looking at the map.

Q. The south channel?

A. The south channel; yes, sir. From A to —.

Mr. Fryberger: The south channel is south of the island and the north channel is north of the island.



Q. On Minnesota Exhibit 1, the channel which you generally took you have indicated in red lines?

A. Well, from A to D, coming up this way.

Q. A-B-D?

A. A-B-D; and going into Little Pokegama used to take this route up here. (Indicating.)

Mr. Fryberger: What is that?

Witness: That is from E to F.

Q. You had to take that route to get to Little Pokegama?

A. In there, yes, sir.

Q. Did you ever attempt to take the channel from C to G?

A. Yes, sir.

Q. How often did you travel that?

A. Well, in later years we traveled it pretty near every day.

Q. From C to G?

Mr. Fryberger: Now wait a moment.

Attorney-General Owen: Just let me ask these questions. What do you mean by later years?

A. From 1886.

Q. From 1886 on?

A. Yes, sir.

Q. What were you engaged in at that time?

A. Engaged in excursion boating.

42 Q. Excursion boat business. Now why did you travel the channel C to G in those years?

A. Well, we used to stop at Spirit Lake.

Q. At Spirit Lake?

A. Yes, sir.

Q. Couldn't you reach Spirit Lake by the other channel just as well?

A. The south channel?

Q. The channel A to B to D.

A. No, sir. Well, we could go that way, but it is away out of your way, go away around one island and go back two or three miles to get there.

Mr. Fryberger: For my own information, let me ask you this question, Mr. Owen. What do you mean by C to G? Do you mean the red line?

Attorney-General Owen: I mean the red line; that is what we are talking about.

Mr. Fryberger: The red line, C to D?

Attorney-General Owen: Yes, sir.

Mr. Fryberger: That is all right; I did not understand you.

Q. Now, were there any other excursion boats running up there at that time?

A. I think not.

Q. Or any other craft of any kind?

A. I guess there was other craft. I think they were towing some up in that way.

Q. What channel did those craft take?

A. Why, I guess they took both the north and the south channel.

Q. Well, did they take the channel A-B-C, or the channel G to C?

A. They took the one from A to C.

Q. Look at that map. (Placing map before the witness.)

A. I understood they took the channel from A to—what is that?

Q. B.

A. To B, and to C.

43 Q. And you with your excursions took the channel from G to C?

A. No, we did not. We took this one with the red line, right through there, from the letter A to B and C.

Q. Now, I asked you a while ago whether you used the channel G to C, and you said you did with your excursion boat.

A. I never considered that—not that channel around there. I had reference to this channel, from G to C, through there, the one I had marked; never used that other one in my life.

Mr. Fryberger: That is, that northerly curve?

Witness: The northerly curve.

Attorney-General Owen: Marked G to C. I suppose, in order to designate that carefully, there ought to be a letter put in there. (Indicating.)

Witness: Yes.

Q. Now what year did you start the excursion business?

A. I think it was in 1886.

Q. And how long did you continue that?

A. Well, for several years. I don't know how many years we continued that; three or four, I guess.

Q. Three or four years?

A. Yes.

Q. And during that time what was your job on the boat?

A. I wheeled and acted as purser, and staked out this channel before the rushes come up; I went up and sounded the river and put the buoys up.

Q. Well, that was not your job on the boat?

44 A. That was my job on the boat, because they let me off to go up there to do it.

Q. Well, explain that now—since you have gone into it.

A. Eh?

Q. Staked out what channel?

A. Staked out the best water along through the turn up there to Spirit Lake, down by this island marked—M, is it?

Q. Well, you take it and tell us.

A. (Referring to the map.) I used to put the buoy here for the shortcut—

The Commissioner: At what point.

Witness: At the point B; I put two buoys there, one at the short-cut and one on the other side of a little island you have got on the other one—I don't know what it is; M isn't it? This around here.

Q. Well, let us have this other map then. You put a buoy at what point?

A. The point on this bar.

The Commissioner: What exhibit?

Witness: Marked B on Minnesota Exhibit 3. I buoyed that around this island, around north and east of island M; some buoys at island K, also at island L. You could make the run up there before the rushes came up.

The Commissioner: Referring to Minnesota Exhibit 3?

Witness: K and L on Minnesota Exhibit 3.

Q. Who helped you to do that?

A. I had a man and a boat; I don't remember who it was now.

(At this hour, twelve o'clock noon, a recess was taken until two o'clock P. M. at which time the witness was recalled and his cross-examination resumed as follows:)

45 By Attorney-General Owen:

Q. Now, Mr. Howard, this morning you spoke of a bar which prevented the navigation of the channel marked G-C upon Minnesota Exhibit 1.

Mr. Fryberger: Now let us see if I understand that, Mr. Owen. That G-C is the channel—you mean there? (Indicating.)

Attorney-General Owen: Yes.

Q. Now where is that bar located?

A. It is located in here. (Indicating.)

The Commissioner: Located where, Mr. Howard?

Witness: Well, say north of C.

Mr. Fryberger: North of point C?

Witness: North of point C, about where C is—about there.

Q. Now what are the soundings marked on that map at that point?

A. Well, there is seven—I don't know what that is right along that C there; that is probably the place right across there. Seven, seven, twelve.

Q. What about the depth of the water on the channel that you say you followed, marked A-F? Read the soundings through there.

A. That is from here? (Indicating.)

Q. No, A-F.

A. Down this way? E to F is it?

Q. Yes, E to F.

A. Well, I can't see that on that line. There are two figures there. 15, 15, 15; and the red line runs over some there with two figures in; and 13, 12, 10, 7, 10, 10, 13, 10, 7, 8, 30.

Q. Three sevens there?

A. Well, there is a lot of 7's here, but they are a little to the north.

46 Q. Right on the red line?

A. Well, there is 11 there, where the channel runs through, I suppose.

Q. Now, according to this map, there was just as shallow water on the line E-F that there was on the line A-B-D, was there not?

A. Yes, sir.

Q. Then, if you could get through the channel marked E-F, it was possible to get through the channel marked A-B-D, wasn't it?

A. That is the way we always went, A-B-D; yes, sir.

Mr. Fryberger: Is that B?

Witness: That is A-B-D, around this way.

Q. I mean the channel G-C.

A. How?

Q. G-C.

A. Oh, G-C?

Q. Yes.

A. I don't know. We never used that channel.

Q. You never used it?

A. No, sir.

Q. Make a letter up there, will you, in red ink?

A. What did you say?

Q. A letter up there, so that we can distinguish that.

A. Do you mean up here? (Indicating.)

Q. No, about there.

A. About there? What do you want there?

Q. The next letter. What is the last letter you have used?

A. Well, on the other map we had an M, you know.

Q. Well, it doesn't make any difference. Put H there.

Mr. Fryberger: Right on the channel.

Witness: Right on the channel, right in there.

Q. Yes. Now the channel we have referred to here several times as the channel G, G-C, is now marked G-H-C?

A. Yes, sir.

47 Attorney-General Owen: I think that is all the questions I want to ask, but Mr. Hudson wants to ask some questions.

Cross-examination by Mr. T. T. Hudson:

Q. Mr. Howard, referring to Minnesota Exhibit 3, I will call your attention to a letter marked K this morning on an island which is north of Big Island.

A. Yes, sir.

Q. And show you the white channel between that letter K, of the island upon which the letter K is located, and Big Island, and ask you to state what that is.

A. That is the dredge channel.

Q. That is the dredge channel?

A. Yes, sir.

Q. That is, that has been dredged within how long a time?

A. I don't know when that dredging was done; some years ago.

Q. Where was the original channel with reference to this island where K is marked?

A. To the north of it.

Q. That was the only deep channel, wasn't it, between Big Island and the Minnesota shore?

A. I think it was.

Q. The Minnesota side.

A. Yes, sir.

Q. In dredging this new channel, was the waste used to fill part of the channel there?

A. Yes, sir.

Q. It was.

Mr. Fryberger: When you say "there," Mr. Hudson, please indicate.

Mr. Hudson: At K.

Mr. Fryberger: Just to the westerly of K, on what now shows a solid island.

48 Q. Prior to the dredging of this channel there was a small island there where K is now located, was there not?

A. I believe there was; yes, sir.

Q. And all the vessels and boats that drew seven or eight or ten feet of water, that passed up westerly of that point where K is located on this channel, passed to the north of K?

A. Yes, sir.

Q. In the channel?

A. Yes, sir.

Q. As a matter of fact, between the island on which K is located and Big Island the water was quite shallow, wasn't it?

A. Yes, sir.

Q. I now call your attention to a point farther up the river and to what appears on the map to be an island marked "Sand," on which you put the letter L in red this morning.

A. Yes, sir.

Q. I call to your attention what appears to be a channel with soundings that are marked 22, 26, 24, 26, 20, 20 and 22, immediately west of that island, and ask you what that is.

A. That is the old channel.

Q. That is the old channel. And this channel marked 22 and 22½ and 20, and so forth, between Sand Island with the L on and Big Island, is the artificial channel?

A. Yes, sir.

Q. Before this channel was cut through there, was this channel, which is north and westerly of L, which you have stated is the original channel—was that the only channel between the Minnesota side at Spirit Lake and Big Island up the river?

A. Well, the only channel with any depth of water. Of course this is all open water through where the artificial now is.

49 Q. But it was shallow water?

A. It was shallow water. I should say six or seven feet through there.

Q. All vessels that drew ten to fifteen feet of water passed to the north and west of this island that is marked "Sand" with the letter L on?

A. They would have to; yes, sir.

Q. They would have to? Well, they did as a matter of fact?

A. Yes, I guess so.

Q. Then tracing farther to the south from the west end of the old channel, which is immediately southwest of the island marked L, that original channel continued down until it reached the shore of Big Island, did it not?

A. Why, that was the course, yes, sir; right through to the Big Island.

Q. And then the river was confined to narrow limits, the main river?

A. Yes, sir.

Q. After leaving the Big Island, by a horn of land on the northerly side and the Wisconsin shore on the southerly?

A. Yes, sir.

Q. Southeasterly.

A. The river is well defined down to about that point there.

Mr. Fryberger: What point is that?

Witness: That is the northwesterly point of Big Island. All around here it is——

Q. Well defined?

A. Yes, sir.

50 Q. And as a matter of fact it was so well defined that it was used for navigation purposes around to the northerly and westerly of Sand Island with the letter L mark, and continued as shown on this map down to north of the island upon which K is marked; was it not?

A. Well, it was not very well defined. The point from where I stated on the northwest corner of Big Island to a point here by the west end of Sand Island marked L was not well defined there. It was just open water. You had to take the general course.

Q. As a matter of fact, these soundings are correct, are they not?

A. I expect they are.

Q. And show there is a deep channel of water there; isn't that a fact?

A. I suppose they are correct.

Q. And as a matter of fact all boats drawing ten to twelve feet of water that went up there followed that channel?

A. Oh, no, not all boats; they go up this other south channel, lots of them.

Q. Well, in the south channel before this was dredged out at this point?



A. Yes, sir.

Q. There is seven feet marked at the cross-mark immediately on the line between B and D, about half way between those points; there appears to be only seven feet of water, according to this map, isn't there?

A. Yes, sir; that is just below the line.

Q. Just below the line.

Mr. Fryberger: Mr. Hudson, did you say that was before it was dredged? Was that ever dredged as a matter of fact?

Witness: This was never dredged. You mean before this was dredged?

51 Mr. Hudson: Before this was dredged, here. (Indicating.)

Mr. Fryberger: There was no dredging there, was there?

Witness: I do not think so. This never was dredged. (Indicating.)

Mr. Fryberger: From B to D never was dredged?

Witness: No, sir.

Q. That that shows the original soundings if that has never been dredged?

A. Yes, sir.

Q. The soundings at the time this map was prepared, anyway?

Mr. Bailey: That is 1912, isn't it?

Q. Mr. Howard, the current of the river, flowing down west, and north of Big Island, was more rapid at the point shown by this original channel than any other point, wasn't it? The current more rapid?

A. There never was very much current there. At times there was.

Q. That is not the answer to the question.

A. Well, I could not see any difference through there in places, north of the island.

Q. You perhaps never paid any particular attention to it?

A. Probably not.

52 Q. Mr. Howard, I want to call your attention to Plaintiff's Exhibit 3 and to that bar that you spoke of that prohibited the use of this so-called hole that extends under what is marked as "Carnegie Coal Company" and also "Coal Dock," being in what is marked on Exhibit 1, G, H, and C. I will ask you if that bar shows on Defendant's Exhibit 3 much more plainly than it does on Exhibit 1?

A. Yes, it does.

Q. Shows the islands there in front of that hole that is upon the line B and C and the hole to the north of it—those three islands?

A. Yes, sir.

Q. And that is the shoal water that you speak of?

A. Yes, sir.

Q. I will ask you whether or not there was ever any dredging done on the line B to D?

A. No, sir.

Q. Showing the witness Minnesota's Exhibit 4, I will ask you what it is?

A. That is the Steamer Emerald.

Q. Is it a photograph?

A. Photograph of the Steamer Emerald.

Q. When was that taken?

A. Between '86 and '90 somewhere.

Q. Is it a correct picture of the boat?

A. Yes, sir.

Q. Where was that taken?

A. Taken up above Big Island between there and Fond du Lac.

Q. Right on the St. Louis Bay?

A. On the St. Louis River.

Q. Was that the boat that you spoke of in your testimony this morning?

A. That is one of them, yes, sir.

Q. What one is that?

53 A. That is the one we were running excursions to Fond du Lac.

Q. How many years did you run that?

A. A couple, I guess.

Q. How many feet did that draw?

A. I think about seven feet of water.

Q. Is that the boat that you said you were running at the time you said you put our buoys along this channel?

A. Yes, sir.

Q. You did that each season?

A. Yes, sir.

Mr. Fryberger: I offer in evidence as a part of this examination Minnesota's Exhibit 4, being a photograph marked by the Reporter, dated July 17, 1917.

Mr. Owen: Objected to as incompetent, irrelevant, immaterial, and on the ground that it hasn't properly been proven as a photograph.

The Commissioner: Received subject to the objection.

Q. Handing you Minnesota's Exhibit 3, I will ask you, Mr. Howard, to locate on this map Spirit Lake station or dock?

A. I think that's it right there, the little dock.

Q. Let's mark a letter on that. I would like to have that marked in red ink.

The Commissioner: "O."

Q. You have marked with the letter "O" where the Spirit Lake dock was? Is that it?

A. Yes, sir.

Q. And when you went up this north channel, was it necessary in order to get to the dock to take the north channel?

A. Yes, sir.

Q. Was there any other objection to the south channel, the one you said you used so much more than the north channel, outside of this Devils Elbow, I think you call it, up here?

54 A. No, sir.

Q. That is the only objection?

A. Yes, sir.

Q. Did that sharp angle become more objectionable?

A. It was always objectionable for a large boat.

Q. Mr. Howard, have you any interest of any nature or description in this lawsuit?

A. No, sir, none at all.

Q. Either directly or remote?

A. No, sir.

Mr. Fryberger: That is all.

Mr. Bailey: I just want to ask one question, Mr. Howard, that Mr. Hudson referred to, that is northerly and westerly of Big Island, whether the bar in there was of a shifting nature along where these two islands marked "sand" were?

The Witness: Yes, sir, it was. The current comes down strong from the southwest end of the Big Island down to this point of Big Island.

Q. You now refer to the northwest corner?

A. Northwest corner. Then there is a very strong current running around this way.

Q. That is around the south channel?

A. Yes, sir.

Q. And as it gets to the northwest of Big Island it spreads out and the bottom there is composed of sand?

Mr. Owen: I object to this as leading.

A. It is soft muddy bottom.

Q. What are these islands that are marked here formed of?

A. Formed of sand and rushes.

Mr. Bailey: I think that is all.

55 Cross-examination.

By Mr. Owen:

Q. Now, Mr. Howard, Exhibit number 3 was made some time after Exhibit number 1, was it not?

A. Yes, sir.

Q. How long?

A. I don't know; I didn't notice the date.

Q. And Exhibit number 3 is made after the extensive dredging operations had taken place?

A. Yes, sir.

Q. Also maps are drawn at different scales, are they not?

A. Yes, sir.

Q. So that what is represented on Exhibit number 3 doesn't necessarily show the conditions existing at the time Exhibit number 1 was made?

A. Well, I guess they are about the same except the dredging work was done.

Q. You say you guess they were. Now, Exhibit number 1 was published in 1861 and founded on surveys presumably made before that. Now, Exhibit number 3 doesn't necessarily show the conditions existing at the time Exhibit 1 was published or at the time the surveys upon which Exhibit number 1 is based—were made?

A. I couldn't say about that.

Q. That would seem reasonable, wouldn't it?

A. Of course there is a lot of changes on this map, improvements.

Q. And Exhibit number 3 presumably represents conditions existing when Exhibit number 3 was published rather than conditions existing back in 1860?

A. Certainly.

56 Redirect examination.

By Mr. Fryberger:

Q. Outside of what the maps show and your own personal knowledge, you know nothing about how they made these maps?

A. No, I know nothing, only what it shows here.

Q. Mr. Howard, we haven't got these photographs finished yet and I wanted you to identify a couple of maps. I want to ask you if you have any serious objection to my using these other two maps as original maps, that you gave me. Have you any objection to my using these original maps you gave me, the one of 1892 and 1896?

A. No, sir, none at all.

Q. Mr. Howard, I show you Minnesota's Exhibit 5, being a map with the legend sectional map of Douglas County, Wisconsin, 1892, scale two miles per inch, published by Brooks & Smith, real estate dealers, Superior, Wisconsin, Milwaukee Lithograph & Engraving Company. Did you ever see that map before?

A. Yes, sir.

Q. You gave that to me yesterday or day before?

A. I did.

Q. How long has it been in your possession?

A. I guess ever since it was published.

Q. And that was a map that was in current use here at the time?

A. Yes, sir.

Q. 1892 and since?

A. Yes, sir, it was.

Q. That shows the situation of the vicinity in question, does it not, and generally here?

A. It does.

Mr. Fryberger: I offer in evidence as a part of this examination Minnesota's Exhibit 6.

57 Mr. Owen: Objected to as incompetent, irrelevant and immaterial and not the best evidence.

The Commissioner: Received subject to the objection.

Q. Mr. Howard, I call your attention to the dotted line on this map starting out in the lake, which is marked "State boundary" on the northerly side "Minnesota", and on the southerly side "Wisconsin", which runs through the Superior opening into the Bay of Superior and up St. Louis Bay past Spirit Lake and finally up St. Louis River. I will ask if that dotted line on that map was on there at the time you bought it?

A. Yes, sir, it was.

Q. You bought that map in just the same condition it is now in?

A. I did.

Q. Mr. Howard, I show you Minnesota's Exhibit 6 and ask you if you ever saw that map before?

A. Yes, sir.

Q. When did you give it to me?

A. Day before yesterday I believe.

Q. How long has that been in your possession?

A. Well, probably from 1896, I bought it some time after that.

Q. Soon after they made it?

A. Yes, sir.

Q. Has it been in your possession ever since?

A. Yes, sir.

Q. Does that correctly show the situation at the head of the lakes, Superior Bay and St. Louis Bay up to date?

A. Yes, sir.

Q. I will ask you if the dotted line starting in Superior entry in Lake Superior, running through the Bay of Superior through the center of the Bay of Superior and approximately through the center of St. Louis Bay and up the St. Louis River and past Spirit Lake and marked "State line" in upper St. Louis Bay was on that map

58 at the time you purchased it?

A. It was.

Q. Map is in the same condition as it was at the time you used it?

A. Yes, sir.

Q. Is that a map that was in current use at the head of the lakes at the time you got it?

A. Yes, sir, it was.

Mr. Fryberger: I offer in evidence Exhibit 6, being a map marked Douglas County, Wisconsin, 1896, published by Sandberg, compiled from Government plats, showing all main traveled highways, railroads, boundaries of towns, and location of school-houses and railroad stations and post-offices, scale, one-fourth inch to one mile.

Mr. Owen: Objected to as incompetent, irrelevant, immaterial, not the best evidence.

The Commissioner: Received subject to objection.

## Cross-examination.

By Mr. Gard:

Q. Mr. Howard, in your experience as a navigator, did you navigate Superior Bay?

A. Yes, sir.

Q. How early?

A. Well, '68, 1868 and since.

Q. With what kind of a boat did you navigate it?

A. All kinds of boats.

Q. Well, how many different kinds of boats did you have?

A. I didn't have any of them.

Q. How many different kinds of boats did you navigate on?

A. Navigated on small boats, canoes, side-wheel boats, screw-wheel boats.

59 Q. Were you familiar with the channel after you came through the entry there at the natural entry?

A. Yes, sir.

Q. Do you know where it ran?

A. I do.

Q. Is it shown correctly on the Mead map?

A. I will take a look at it. I can tell you.

Q. Exhibit number 1. Now there is marked on the channel here "St. Louis River pier head light-house", isn't there?

A. Yes, sir.

Q. At the natural entry?

A. Yes, sir.

Q. And does the light streak with sounding figures on running close to Minnesota Point indicate where the channel was?

A. Yes, sir.

Q. That was the correct indication of the channel that existed when you first knew Superior Bay, isn't it?

A. Why, I think about right, yes, sir. I know it seems to me it went a little closer to the point there. There was deep water very close to the point along there (indicating).

Q. That is Minnesota Point, you mean?

A. Yes, sir.

Q. That is just a little above the natural entrance?

A. Yes, sir.

Q. You think it went a little closer to Minnesota Point?

A. I wouldn't say that, of course—you could go right up to the shore there.

Q. The boats did go right up to the shore?

A. Yes, sir.

Q. There was deep water there?

A. Yes, sir.

Q. And there was a channel all the way up Superior Bay, was there not?

A. Yes, sir.

60 Q. And through between Connors and Rice's Point?

A. Yes, sir.



Q. And between Rice's and Connors Point or just after you get through between Rice's and Connors Point the channel went very close to the Minnesota shore, didn't it?

A. Yes, sir.

Q. And it ran very close to the Minnesota shore out through where the Northern Pacific bridge is now located, didn't it?

A. Yes, sir.

Q. And it was a well-known channel down through there, wasn't it?

A. Yes, sir.

Q. And used by navigators?

A. Yes, sir.

Q. Now, Mr. Howard, you knew that these lines on these maps that you have identified, were just random lines, didn't you. Minnesota's Exhibits 5 and 6; you knew that these lines were just random lines on that map, random or approximate?

A. I don't know anything about that.

Q. Well, you know that they didn't follow the channel, don't you?

A. That line follows pretty close the channel right across the bay there and right by the end of that point.

Q. Didn't you just testify that the channel ran very close to the Minnesota shore after it gets through between Rice's and Connors Point?

A. I did, but that's very close to it right there.

Q. Do you regard that as being the same location; do you regard the state line—the line marked "State line" on Minnesota's Exhibit 5 the same as the channel shown on Mead's map through Superior Bay and into St. Louis Bay, do you, on Exhibit 1?

A. There is a little difference in it on this map than that line.

61 Q. Do you regard them as substantially different?

A. Why, no, not substantially.

Q. Then you know, don't you, that this was simply a random and approximate line on Exhibit 5 I mean?

A. I don't know what authority that was put on there by. I don't know anything about that.

Q. You never knew of anybody going by that for the State line, did you?

A. No, sir, I never thought anything about the Stateline.

Q. As a matter of fact, that was a real estate man's map, wasn't it, put out as an advertisement—Exhibit 5?

A. I don't remember; I guess I bought it.

Q. Are you sure you bought it or got it of a real estate man as an advertisement?

A. I never got it from any real estate man because I didn't know any of them.

Q. You see this is put out by Brooks & Smith, don't you, real estate dealers?

A. I never knew either one of them—Yes, I guess I did too, if that's George Brooks.

Q. Do you have a distinct recollection of buying that map?

A. No, sir.

Q. You do know that these real estate dealers just put that map out as an advertisement, don't you?

A. I do not.

Q. Didn't you get it of somebody?

A. I couldn't tell you how I got it; I probably bought it.

Q. You don't have any recollection of buying it, any distinct recollection?

A. No, sir, I do not.

Q. Do you know how you got the Sandberg map, Minnesota's Exhibit 6?

A. I expect I bought it, the only way I know of getting it.

Q. Do you regard the State line that is marked on that map Minnesota's Exhibit 6 as substantially the same as the channel shown on the Mead map, Minnesota's Exhibit 1?

A. There isn't much difference, only this is a little more straighter, more uniform.

Q. You testified that the bar you spoke of was shown on Minnesota's Exhibit 3 I believe plainer than it was shown on Exhibit 1, didn't you?

A. Yes, sir.

Q. You know, don't you, that there were dredgings done and that a good deal of the dredging was done by the suction dredge and the sand thrown over in the old channel, don't you know that that was true?

A. I know there was some sand throwed out on the side there. I don't know where it was from.

Q. Don't you know that a good deal of it was thrown in what is known as the old channel of the river?

A. No, sir.

Q. You don't know, then, whether the soundings that are represented on Exhibit 3 are the soundings on top of the dredgings or the original soundings?

A. I do not.

Q. You never tried to navigate that channel that you marked on Exhibit 3 as H, did you?

A. No, sir.

Q. You never tried to go through there?

A. I know we tried going down that way very often but we couldn't get through.

Q. How many times did you try to go down?

A. I don't remember.

Q. How did it come that you tried to go down through that old channel?

A. I was trying to get down the best way I could get down to navigate the river.

Q. Do you think the soundings are shown correctly on the Mead map?

A. I suppose they are.

Q. Have you looked and don't you know that the Mead map

shows that you can follow a channel ~~there~~ that isn't less than ten feet deep—I mean through the channel that you marked?

Mr. Fryberger: I wish this objection to be entered on the record that the map speaks for itself.

Q. H. on the map.

A. I would say that the red ink has blotted some of the figures and I am unable to say that.

Q. You did find, didn't you, that your channel marked red runs over a seven foot sounding?

A. Yes, sir.

Q. You know that that sandbar wasn't less than seven feet in depth?

A. I know where that's marked seven feet there. There was more water than seven feet in some places.

Q. You mean it had changed after the Mead map?

A. I don't know whether it changed or not.

Q. Do you assume that the soundings on the Mead map are correct?

A. I wouldn't say whether they are or not.

Q. You don't know anything to the contrary?

A. No, sir.

Q. Did you ever use the Mead map?

A. Never saw it before.

Q. Did you ever have any map that showed soundings when you ran the St. Louis River?

A. Yes, sir.

Q. What map was it?

A. I had a Government plat.

Q. When?

A. I have had a number of them of this Lake Superior, of all the lakes.

64 Q. How far back now did you have a Government plat?

A. Well, I don't know how far back.

Q. Well, you have some idea, don't you?

A. No, I have not.

Q. Well, you didn't have any Government plat in '67?

A. No, sir.

Q. Nor in '70?

A. I don't think so.

Q. Nor in '75.

A. Probably not.

Q. What boats did you see navigating—I mean the St. Louis River?

A. I don't remember. I see all the boats that navigated there—wasn't very many of them.

Q. Now you say you tried to get down that old channel that you marked H, several times?

A. I remember of getting around in there trying to go through there.

Q. Why did you try to go through there?

A. I don't know, sir.

Q. If you tried to go through there it was because you knew there was a channel down through there, wasn't it?

A. There was lots of channels around through there and we used to try them too.

Q. You knew that was the deepest channel around there, that one you marked H?

A. I did not.

Q. Don't you know that the Mead map gives it to be the deepest?

A. I see it on the map there.

Q. Have you any doubt that that map showed the correct depth of the channel at the time it was made?

A. I have nothing to say on that. I suppose it is all right.

Q. Now you see, don't you, that that line that you said was marked on the maps that you have identified here, two of the maps, was recognized as State line. You have just now testified that  
65 you didn't know of it being recognized as a State line and you don't know, do you?

A. No, I don't.

Q. But you do know that the old channel came through between Rice's and Connors Point close to the Minnesota shore?

A. Yes, goes close.

Q. Were you here when the Northern Pacific bridge was built?

A. Yes, sir, I was.

Q. Was there always two draws in the Northern Pacific bridge?

A. No, only one first.

Q. Which one was it?

A. One to the east.

Q. You mean the one on the Duluth side?

A. Yes, sir.

Q. Minnesota side?

A. Yes, sir.

Q. And you knew that was put there because it represented the old channel, didn't you?

A. Why, yes, I know the channel went up right about where that draw was but didn't go up there very far.

Q. You have seen boats going around that channel that you marked H, haven't you, Mr. Howard?

A. I never saw a boat go around there, no, sir.

Q. How many trips do you say you made up the St. Louis River a year?

A. I don't know. Some years I made more than others. Scarcely a year that I didn't make a number of trips up there.

Q. You testified you went up five or six times?

A. Yes, sir.

Q. Sometimes you went up fewer times?

A. No, I don't think I went up less times than that.

Q. How far up did you up usually?

A. Different places. Used to go up to Fond du Lac, up to the La Garde meadow just above the Big Island.

Q. What did you go there for?

A. My father owned that and we used to cut hay there.

Q. What did you go up there in?

A. Went up there with this Lottie Bernard a few times.

Q. Did you take that to go up to your farm—Lottie Bernard?

A. We hauled the hay down with her.

Q. How often?

A. Probably couple of times once each year. Only made hay once a year there.

Q. Was it one of these times you tried to get through that channel you marked H?

A. I couldn't tell you.

Redirect examination.

By Mr. Fryberger:

Gentlemen, I want to ask you if it will be admitted that Minnesota's Exhibit 7 and Minnesota's Exhibit 8 are photographs of a photograph of a map that was made by Lieutenant H. W. Bayfield of the English Navy, from a survey made from 1823 to 1825. Exhibit 7 is an inset from 8, and that the original photograph from which this is taken as a record in the United States Engineer's office in the City of Duluth.

Mr. Gard: You intend to call Mr. Darling?

Mr. Fryberger: We intend to call Mr. Coleman. We will call Mr. Darling.

Mr. Gard: There are changes on this map.

Mr. Fryberger: No changes except this legend.

67 Mr. Gard: There are changes in the soundings.

Mr. Fryberger: As I understand it, you will admit that these are photographs from the photographs of the map that is on file with the United States Engineer in the City of Duluth.

Mr. Gard: Yes, but we don't want to consent to admit it in evidence until the variations are shown.

Mr. Fryberger: We will call the proper officer from the Engineer's office. We state now that this legend on Exhibit 7 was put on by Mr. Darling as it appears, April 22nd, 1904, showing that it is an inset from the other map.

Offer in evidence Minnesota's Exhibit 7 and Minnesota's Exhibit 8, being photographs of maps made by Lieutenant Henry W. Bayfield of the Royal Navy of England, assisted by Mr. Philip Ed Collins, midshipman, between the years 1823 and 1825.

Mr. Owen: We do not object to the reception of Exhibit 7 and 8 in evidence upon the understanding that some one will be called who can explain what is meant by the terms "Variation in 1871."

The Commission: With that understanding the exhibits will be received in evidence.

Q. I want to call your attention to Minnesota's Exhibit 7, Mr. Howard, and to the soundings starting out here in Lake Superior and going through the old Superior entry and running up Superior

Bay going through between Rice's Point and Connors Point, following up the St. Louis Bay and following up what we term here the south channel going to the south of Big Island entirely, showing no channel to the north. Now I will ask you if that shows the channel about as you recollect it as it was before any dredging was done, not calling your attention now to any channel around to the north of Big Island.

Mr. Owen: Objected to as leading.

The Commissioner: It is objectionable as leading. Can't you formulate it a little differently.

Mr. Fryberger: We will take an answer to it just as it is.

A. Yes, sir, them soundings are about on a line as I supposed the channel was.

Q. That is you are not taking into consideration in your answer anything in connection with what has been called here the north channel around Big Island?

A. No.

Mr. Gard: Which map shows the channel as you more nearly remember it, the map that has been introduced as the Bayfield map or the Mead map, Minnesota Exhibit 1?

The Witness: Why, the Mead map shows it more as I remember it.

69 LEONIDAS MERRITT, was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Merritt, you are a resident of the City of Duluth?

A. Yes, sir.

Q. And have been for how long?

A. Pretty near sixty-one years.

Q. And may I inquire how old you are?

A. Seventy-three and past.

Q. Born in 1843?

A. 1844.

Q. You have just been a member of the city commission under the new form of government, commission form of government, have you?

A. First four years, yes, sir.

Q. Were you, Mr. Merritt, in the Civil War?

A. Yes, sir.

Q. Served how long?

A. About three years, not quite.

Q. And you say you have lived in Duluth sixty-one years?

A. Yes, nearly sixty-one.

Q. What year was it that you came here?



A. I came here in 1856.

Q. Your father moved here at that time?

A. He came here in 1855.

Q. So that your family was amongst the earliest settlers at the head of the lakes?

A. Yes.

Q. You had a number of brothers, did you?

70 A. Yes, sir, there was eight of us, eight boys, yes.

Q. How many of them still live in Duluth?

A. Three of us living in Duluth now.

Q. That is N. B., Alfred, and yourself?

A. Yes.

Q. Now right immediately following the Civil War did you sail the lakes for some time?

A. I sailed five seasons.

Q. About what years was that?

A. Well, that would be the five seasons following the Civil War, very near that.

Q. Where did you sail?

A. Well, we had what you call a coaster, trader, fore and aft—trader, sailed all around the lakes.

Q. Did you go down to the other lakes or use that all in Lake Superior?

A. No, just located in Lake Superior.

Q. But you went all over this lake?

A. Yes, pretty much all over it.

Q. You followed that for five years?

A. Yes.

Q. So you were about twelve years old when you came to Duluth?

A. Twelve years old, yes.

Q. And you were along something like 22 or 3 when you commenced sailing?

A. Yes, about 23, I guess.

Q. Where did you live in the earliest days?

A. I lived at Oneota. It is now in Duluth, on St. Louis Bay, on the Bay of St. Louis.

Q. That is the part of the Minnesota shore just easterly of Grassy Point, is it not?

A. Yes, sir.

Q. As shown on these maps?

A. Yes.

Q. And have you lived in that locality ever since, practically?

71 A. Oh, yes, yes, I live there now, always lived there.

Q. And your family lives there?

A. Yes, family lives there too.

Q. And your brother Alfred lived out there until a few years ago?

A. Yes.

Q. Have you been during all of the time since you came here

familiar with the waters from what is called the Superior entry up to Fond du Lac?

A. Yes, we were quite familiar with it, especially when I was young because there was no roads or hardly any trails and we used to go by boats, small boats, canoes, one thing and another, travel around that way, to begin with.

Q. During those years that you sailed did the boats that you used go up these waters?

A. Well, we had no business with our boats above Oneota where I lived.

Q. Did you in other years traverse these waters up above Grassy Point and up to Fond du Lac? A. Why, at the time they were building the old Lake Superior and Mississippi road we were engaged in freighting for the road and its contractors, as far as Fond du Lac from Connors Point and up in through here too.

Q. That is freighting by water you mean?

A. Freighting by water, yes.

Q. What kind of a conveyance did you use—vessel?

A. We had a little sail scow that we used to sail when there was a wind and pole when there wasn't any wind. Worked by the hour and we was young men foolish and we thought we had to work all the time.

Q. And that occurred about what years?

A. Well, let's see.

Q. This freighting for the building of that road?

72 A. I can't recollect. It was the time they was building the St. Paul and Duluth road.

Q. That used to be known as the Lake Superior and Mississippi?

A. Yes.

Q. Was that built about '69 or '70?

A. Yes, I think it was '69; I can't fix dates; I don't remember.

Q. Did you in those days have a pilot's license?

A. How is that?

Q. Did you in those days have a pilot's license or had you at any time?

A. No, I never had a pilot's license. My brother was a pilot. I never had a pilot license but I often piloted steamers.

Q. But you often piloted just the same?

A. Yes, just the same.

Q. Now, calling your attention to this Minnesota's Exhibit 3, and starting about the head of Grassy Point there, I will ask you what the usual course of navigation from there on up towards Fond du Lac was, if you can tell?

A. Well, we used to go— At the end of Grassy Point there was what we called the Devils Elbow there and there was a channel turned down in there and then there was a kind of a channel across here (indicating). We used to go across something near where this red line is.

Q. The red line you refer to is the red line, A, G, B?

A. Yes. Well, that is the channel we used to take steamboats over whenever I piloted them. Sometimes I did. But our boat

that we navigated almost night and day the summer they were building that road we didn't mind much about the channels; we knew where they were at that time, and the boat was light draft.

We used to always go up this channel with that boat unless we had freight to deliver up in here (indicating).

73 Q. When you say "this channel," you are pointing to the channel south of Big Island, are you?

A. Yes.

Q. When you went up that channel south of Big Island you say that you took a course something like A, G, B?

A. Yes.

Q. And where from B?

A. We used to go across here (indicating).

Q. You point then on the line B-D and then on up the channel south of the Big Island?

A. Yes, Big Island.

Q. Do you know whether there was still further south than that, and near the Wisconsin shore another channel and if so, can you tell about where it was?

A. Well, there was deeper water here. There was some grass in different places around in this part of the bay and I remember this channel in here, for we didn't have much to do here at this time.

Q. There was a channel in here—you are pointing to a line A-E and around F?

A. Yes, I recognize these channels through there.

Q. But you say you didn't have as much to do——

A. No, very little to do that way.

Q. Is it or is it not true that most of the water traffic in those days and while you were familiar with navigation took the course substantially the same as A, E, G, and B?

A. Oh, yes, they all went up in there, all the old passenger steamers.

Q. That is the south channel?

A. South channel.

Q. And after you got to B your pencil just now pointed to the south channel?

A. Yes, sir.

74 Q. South channel of Big Island?

A. Yes. That is away back in 1857 the steamers that used to run up to Fond du Lac used to take this channel; the old Seneca was one and the side wheel steamer, I forgot the name of it, used to make almost daily trips. They always took this channel.

Q. South of Big Island?

A. South of Big Island. There is no well-defined channel as I understand it, through this bay or that bay (indicating).

Q. This bay you are pointing to the waters just westerly of Grassy Point?

A. Yes, sir.

Q. And by that bay you are pointing to the waters just easterly of Grassy Point?

A. Yes, sir.

Q. And you say in these waters there were no well-defined channels?

A. No well-defined channel. When they ran up this shore there was a bar up there somewhere, I forget just where it was; it wasn't very deep.

Q. Calling your attention to a sort of a light line and a half circle just easterly, line that is marked B here, was there a bar in there just west of what is marked "Coal dock"?

A. There was a bar up there somewhere but I can't locate it now; we didn't used to go around there much.

Q. That was very little used, I take it?

A. Yes; used to be a bar out here. That new channel led that off. That is what we call the Devils Elbow.

Q. That is, you are now pointing to the southerly end of Grassy Point?

A. Southwesterly end.

75 Q. You say that used to be called the Devils Elbow?

A. Yes.

Q. And has the land or water of that name moved up the river since?

A. I understand now the boys call this one up here by Big Island the Devils Elbow. They have dredged it out.

Q. Did you at any time have to do with publishing maps of this vicinity?

A. Yes; I published maps for several years and then finally sold out the business.

Q. Were you in those early days engaged in cruising?

A. Yes, I was a cruiser, pine and mineral land.

Q. When did you commence that, sometime after these five years?

A. Oh, yes; shortly after; I can't remember the dates hardly, but I worked at cruising a good many years.

Q. You were at that in the seventies, were you?

A. Yes.

Q. And also in the eighties?

A. Yes, sir.

Q. And did you go to considerable expense with reference to having accurate surveys made for the purpose of publishing your maps?

A. I found in my cruising that often there was offsets in the surveys; that the maps that were made at that time—did not understand—cut them up in squares like a checker-board, so I hired a man in the Auditor's office in St. Paul to work up the field notes of this land district, and published the first correct map that ever was published in this country.

Q. Calling your attention to a paper marked Minnesota's Exhibit 9, I will ask you if that is one of the maps that you published?

A. Yes, that is one of the maps that I published.

Q. This appears to have a date on here 1888. I will ask you whether you had commenced the publication of maps prior to that time?

76 A. Oh, some three or four years, but I don't remember

the exact date. I dated these maps as they came out as I published them.

Q. Was this map then which you published, was that substantially the same so far as the waters in question were concerned as the earlier maps which you had published?

A. Yes, I think there wasn't any difference made on that.

Q. And was this map generally circulated here at the head of the lakes and in common use?

A. Oh, yes, it was almost the only map that was used, this series of maps, for several years here.

Q. You mentioned a few minutes ago that it was the first accurate map of this vicinity around here that was published, is that true?

A. That's true, because no one else in publishing a map has worked up the field notes, you know, to get the offsets.

Mr. Bailey: I will offer in evidence Minnesota's Exhibit 9.

Mr. Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Received subject to the objection.

Q. Now this red line that is shown on Exhibit 9 along with this mark St. Louis Bay and Bay of St. Louis and Bay of Superior, what does that represent?

A. That represents what I understood at the time was the State line. That is the old idea ever since I was a boy, that that was the State line there.

Q. Was that the common understanding?

A. Absolutely.

Q. Of the people in this part of the country at the head of the lakes in those days?

Mr. Owen: I object to that as incompetent, irrelevant, immaterial, and as being leading.

77

The Commissioner: He may answer.

A. Well, you know in these old days that I was here there were very few people and I knew them all and they knew me and we know about all these things in our own way and that is my recollection of the boundary as it was understood, generally understood, and I think you ask any old settler here and he will tell you that.

Q. Was that true from the very earliest times?

Mr. Owen: Objected to as leading.

A. That was true from the very earliest times.

Q. Now I see you have marked on here, "St. Louis Bay" which appears to be westerly of Grassy Point, and "Bay of St. Louis" which appears to be easterly of Grassy Point. What is the fact as to what the understanding was about the waters at these locations as to what they were called in the early days by common and general understanding?

A. By general understanding?

Q. General repute.

A. They was called the upper bay and the St. Louis Bay.

Q. The upper bay what you have marked St. Louis Bay?

A. Yes, and to designate them I remember very well when I dictated this map, you know, I named that St. Louis Bay and this Bay of St. Louis too.

Q. Sort of differentiate?

A. Differentiate. My idea was that that bay was formed when this St. Louis and Superior Bay was the open lake. I think anybody that's looked into geology and formation of these points would agree that Grassy Point was first formed, because the lake gravel is there at the base and the sand out at the end, but it didn't  
78 raise above the water by the action of the sea and current as high as it did at Rice's Point and Connors Point. Rice's Point is exactly the same formation. It was gravel at the base and sand out at the end and Wisconsin Point is all sand from the drift of the south shore and these were formed from the drifts of the north shore. Minnesota Point is the same exactly, gravel resting out here (indicating), so that these points must have been formed one after another and that's what we call St. Louis Bay in the old times, was the only bay that was here; or perhaps originally this was an estuary, a sort of a widening of the mouth of the river.

Q. That is both St. Louis Bay and Superior Bay you were pointing to?

A. This was an estuary. You see it up as far as New Duluth. There is lake gravel there. I seen when we were excavating there for sewers, you know, the lake formation there, so that the sea or lake must have beat in against that point.

Q. That is at New Duluth?

A. New Duluth, yes, sir. And then afterwards this Rice's Point made a bar there and that became a bay and then St. Louis Bay was next. The formation of Rice's Point and Connors Point, and then the Bay of Superior, as they call it, was next.

Q. Do you know whether it is the common understanding or have you any information as to whether there is probably a bar forming even outside of what is known as Minnesota Point and Wisconsin Point?

A. Yes, I have heard that talked of and I presume that they was forming there. Wherever the debris or the silt comes down  
79 the river, and the current is strong enough to carry it out into the lake. It will only go a little ways out. It will settle when it meets the dead water of the lake and it will form a point. That is the way all these points are formed.

Q. Have you made a study to some considerable extent of the mouths of rivers and the heads of lakes and the formation where the waters of rivers enter lakes?

A. Yes, I have. I didn't know that I would ever want to use it, but it is for my own convenience in voyaging in the north lakes, particularly canoe voyaging. I have seen these points and saw the cause of them, saw where the wind would wash the gravel up and meet some point of obstruction and then work out like Minnesota



Point. There is one in Pile Lake that I was looking at the other day that formed out there and will cut that lake in two, and it was formed just the same as these were, but probably take more time to do it.

Q. You have a summer home on Pike Lake?

A. Yes, sir.

Q. And have had for several years?

A. For thirty years.

Q. And have watched the formation?

A. Yes, I have seen that point built out, measured it.

Q. From your knowledge of these waters above what is called the Superior entry and up to we will say the westerly part of Big Island or westerly end of Big Island, what in your opinion are those waters, are they an arm of the lake or are they a river?

A. They are certainly not a river.

Mr. Owen: Objected to as incompetent, irrelevant and immaterial; on the further ground that the witness isn't competent to testify.

80

The Commissioner: Go ahead and testify.

A. It is very easy to tell an estuary or bay or lake because—well, geography teaches us that those are, and your own experience too. A bay, of course, is an arm of the lake in a way and these are certainly the arm of a lake. They have no defined channel. They are flattened out. Now the river commences at the west of the island there, as I have got it on this map "The Island." The river commences right up there at that cut-off. All that island is in the bay—St. Louis Bay. Water divides and runs around the island.

Q. If I understand, your idea is that the mouth of the river is at the westerly or southwesterly end of the island, the "Big Island" as it is sometimes known?

A. Yes, that is the mouth of the river.

Q. And from there on down it is the bay or mouth of the lake?

A. Yes.

Q. What have you to say, Mr. Merritt, as to whether the bottom of these waters in question, that is, from down at the point you have mentioned as the mouth of the river, on down to Grassy Point, whether that bottom is of a shifting character so that the soundings taken one year would not necessarily give the depths at those same places a few years different, either way?

A. Well, of course, there was a time that they were cutting timber up at Cloquet and they didn't have burners there and they let the drift come down. I was on the river some and I noticed that there was a good deal of chips and sawdust and one thing  
81 and another that would be swept down the river into the bay and settle. I don't know to what height or depth that would change the river at all, because I never made any surveys, but I know there was rice fields that it covered with these chips and sawdust.

Q. What part of the bay was it that this settling would occur?

A. It would occur shortly after it came out into the bay there.

Q. That is shortly after passing the westerly or southwesterly part of Big Island?

A. Yes, sir.

Q. And settle from there on down to Grassy Point; is that what you mean?

A. Yes.

Q. Would it be true that the ordinary portions of the river would act in the same way except perhaps not so rapidly?

A. Well, especially since it cut through this channel at Duluth. Now, originally, of course, the channel ran out here at Superior, what we call the Superior entry now. Then the bay would get very much higher than the lake sometimes and there would be a pretty strong current down there down through these bays while the bay was emptying the superabundance of water, but there isn't so much of that now.

Q. Not so much as before the cutting through, you mean?

A. Yes, the two openings there clear the water of the bays.

Q. So that there is not as much of that now as there was before the canal was cut through?

A. No. I recollect when they was cutting this canal through there I was down there and someone had dug a trench from the end of the canal, and there was a river running down across as though it was a small river. I stepped across and back. The bay was  
82 then two or three feet higher, as much as two feet, perhaps three feet, higher than the lake. There was high water at the time and they had dredged through the sand bar, you know, and someone had cut a little channel with a spade and the next morning that had all cleared out with the current; so that the bay lowers quicker now than it used to.

Q. Before the canal was cut through there on the Minnesota side near Duluth what is the fact as to whether there were tides, so-called, that went up through these waters in question, and if so give us some idea of how far they went up?

A. They would back the water as far as above Fond du Lac. The current would run up there often, I found, in small boats, and the current would run up there, a tide of six inches. Unless there was a rush of water the three inches would back it up to Fond du Lac.

Q. A tide of three inches will back up to Fond du Lac?

A. Yes.

Q. What is the fact as to whether, except in cases of very high water like spring freshets, as to the level of the water at Fond du Lac and the level of the water out in the main body of the lake?

A. I think under ordinary circumstances they are very nearly the same. I don't think there is very much—over two or three inches difference. I have heard, but I don't remember exactly.

Q. What is the fact with reference to logs that might be floating into these waters, these bays, as to whether they would float both ways or would they only float one way?

83 A. Well, if the current happened to be up from any cause, from northeast wind, would raise the water in this end of the lake by considerable some times. Then they would float up stream.

Q. How far have you known of them to be carried up to any point?

A. I don't know as to that. I logged up at Spirit Lake one winter and poled logs down and got them in town here, I think. Got them in to an old mill that is down here by Patrick's place.

Q. That is right near the main part of the City of Duluth now?

A. Yes, sir. And they would float up to Fond du Lac if they had time. Of course, the usual current is down until you get to Big Island.

Q. Until you get to Big Island?

A. Yes, to "The Island."

Q. Now calling your attention again to this Minnesota's Exhibit 3 I will ask you whether in what you call lower St. Louis Bay and which is marked on that map "Bay of St. Louis" whether there are any well-defined, or whether there ever have been any well-defined channels in that body of water?

A. Not clear through the body of water. I will tell you. When you get down here (indicating), the old channel turned, of course, hugged this shore, and here was a point—trend of the shore always directs the channel. Of course there would be a current down here sometimes one way and sometimes another, but usually down.

Q. You are pointing now about to the end of Grassy Point?

A. Grassy Point. And that channel ran down quite a piece as it shows on Mead's map, almost to Oneota here. And then there was no channel there again. It spread out. And here was

84 a channel at Rice's Point.

Q. Do I understand you that there might be some little current or channel just easterly of Grassy Point and another current or channel for a short distance westerly of Rice's Point, but that in between there was a body of water in which there was no channel or current?

A. Spread out. No well-defined channel, no, sir.

Q. Was the water on the Wisconsin side of the body of water as deep as on the Minnesota side?

A. Yes, about the same across there. There was a point down there by Howard's Pocket. There wasn't any well-defined channel there, but the water was about the same depth, eight or nine feet.

Q. As a matter of fact, I think if I am not mistaken Mead's map shows a little deeper on the Wisconsin side?

A. Of course, there wasn't much difference as I remember it.

Q. Apparently in through here (indicating on the map) near the Wisconsin side, there was a depth a trifle greater than on the Minnesota side, was there not?

A. I think there was, but it wouldn't be over a foot difference, nothing noticeable.

Q. Calling your attention to map which has been marked Minnesota's Exhibit 10, I will ask you if that is one of your maps?

A. Why, it is a copy—

Q. No, I mean if the particular paper belongs to you, if you produced it here in court?

A. Oh, yes, it's my map, yes.

Q. How long have you had it, if you know?

A. No, I don't remember, but I presume I bought it when it was first published.

85 Q. Did you just find that amongst your papers today on request that you look through them and see what you could find in the way of maps?

A. Yes.

Q. I see this is marked "Published by Lewis & McNair" and "copyrighted 1888 by Ray T. Lewis."

A. Yes, sir.

Q. Who was Ray T. Lewis?

A. I think he was mayor one time.

Q. Wasn't he also called Captain Lewis?

A. Yes.

Q. Wasn't he a sea captain?

A. Was he a sea captain? I don't know.

Q. He was for some years mayor of Duluth, was he not?

A. Oh, yes.

Q. He has been dead for several years, has he?

A. Yes.

Q. And was this map in common circulation and well known in the times in which it was published?

A. Yes.

Q. I see it is marked here drawn by "J. J. Durage, Civil Engineer."

A. Yes, I remember. I allowed him to copy my map. He is now dead.

Q. Was he a man of some unusual accuracy so far as engineering is concerned?

A. Yes, he was a great engineer. I saw him when he was making this map. I was in his office. I remember well about it now. I had mine copyrighted but I told him it was all right.

Mr. Bailey: Offer Minnesota's Exhibit 10 in evidence.

Mr. Owen: Objected to as incompetent, irrelevant, immaterial.

The Commissioner: Received subject to the objection.

Q. Do you know, Mr. Merritt, what was the first atlas published in the City of Duluth, whether Roe's atlas was or not?

A. I had one it seems to me that was like that.

86 Q. Do you know whether Roe's atlas was——

A. No, I don't.

Q. Do you know that was one of the early ones at least?

A. Yes, I remember buying it long ago.

Q. Do you know whether that was in common use at the head of the lakes?

A. Yes, it's used around here.

Q. What?

A. Yes, it was in common use in the office, I know.

Q. Calling your attention to Roe's atlas page 126, I will ask you if the map there is a part of Roe's atlas which was in common use from 1890 and thereabouts, at the head of the lakes?

A. Yes, about that time I bought the atlas.

Mr. Bailey: Offer book Exhibit 11 in evidence.

Mr. Owen: Objected to as incompetent, irrelevant, and immaterial.

The Commissioner: Received subject to the objection.

Q. Mr. Merritt, have you during your life paid a good deal of attention to iron mining, iron ore deposits and geology in connection with that, and with the formation of the surface of the earth generally?

A. I have made as much study as I could for the last twenty years, twenty-five or thirty years.

Q. So as to get it into the record, just tell us in a general way what you have done along those lines, what experience you have had and what study you have made. I don't mean by that to go into detailed history any longer than you want to.

(Ten minutes recess.)

Q. (Question repeated by Reporter):

A. When we first came on Lake Superior, as a boy, there were many miners up here and I used to hear them talk and I got interested in it, and so from the time I was a boy, I was twelve years old, and so I kind of made a study whenever I could, of the theory of formations and finally evolved the theory that all mineral was water formed, sea water formed; that when the sea was up at different levels and ran against the ice, the ice formation, that there it would deposit whatever mineral there was in it, and worked on that theory, specially on the Mesaba Range, and there we evolved what they call the trough theory. Now we called it the basin theory. Ten years afterwards it was promulgated by Van Hise of the Wisconsin University, and we located the whole Mesaba Range on that theory of a water formation and what we called the basin formation which Van Hise named trough theory. Trough is better because our first idea was that they was nearly circular like a basin and of course after we mined this out, mined into them, they appeared to be more the shape of troughs. Since then I have worked on that theory in Old Mexico and been successful in finding ore. Also New Mexico and Idaho. I didn't succeed in making any money there yet but I found the ore just the same.

Q. About what time was it you evolved that theory, you say it was some ten years before President Van Hise?

A. It would be in 1892 we evolved that basin theory as we called it.

Q. Did you locate a considerable number of mines on the Mesaba Range on the strength of that theory?

A. Yes, we located all the way from Mibbing east to Embarrass Lake.

Q. And applying that theory were you practically always successful in putting down drill holes?

A. Yes, sir, we never made a mistake.

Q. Always found the ore when you followed that theory?

88 A. Always found the ore.

Q. Did you have to do with the building of the Duluth, Missabe & Northern, which was the first ore road?

A. Yes, sir, I was one of the syndicate of five that built it. My brother and Donald Grant and one or two others, I can't recall their names; there was five of us.

Q. Was that the first railroad that connected Lake Superior with the iron mines on the Mesaba Range?

A. Yes, the first one.

Q. That was built about when?

A. That was built in '92.

Q. '92 and '93?

A. '92 and '93, yes. We shipped ore over it in '93, I think.

Q. You spoke a time or two in your testimony about making examinations at these points along there like Grassy Point and Rice's Point and Minnesota and Wisconsin Points. Have you given a good deal of attention to the study of the formation there in the same way?

A. Yes, not only there but also in hunting for mineral we found that wherever there was what we called a boulevard pitch—the original ocean shore—that wherever there was a point, hook, as you might call it, running from the south—bending in towards the southwest, there we were liable to find mineral. Our idea was that where that hook was formed there was an eddy and that gave a better chance for the mineral deposit in these troughs, and these points were formed probably something like those were, about the same principle.

Q. As I understand, your idea is, then, that so-called bars, or the first bar there formed up—the first bar we now find in these waters, was formed up near the mouth of the St. Louis River?

89 A. Yes. First one above the mouth of what the St. Louis River is now, above Spirit Lake. The first bar was formed there and the river worked around in the clay on the south shore between that bar and Spirit Lake. Spirit Lake was the first bay, I think, that was formed.

Q. And then that they were gradually formed from there on down?

A. Yes, sir, one after the other.

Q. So that the last one that now appears above the surface is what is known as Minnesota Point and Wisconsin Point?

A. Yes.

Q. And you think there is one forming still further out in the lake now, although it hasn't appeared above the surface?

A. I have that theory but I haven't looked up soundings for it.

Q. Just give us a little idea in your own language as to why you think these waters in question up to the westerly end of the big island are an arm of the lake or part of the lake rather than a



river. Perhaps you can do it by telling us what you understand to be a river or know is a river and what you know is a lake.

A. In the first place if my theory is correct at all about the formation of these points, that was a narrowing of the lake and might have been an estuary, what is called an estuary, probably was, and then when the current of the river came down and met the sea, met the wave, you know, or the dead water, there it formed a bar and these bars were formed successively and left them as bays. They are certainly not a river.

Q. What I mean is, you spoke of an arm of the lake or bay. What are the characteristics of them as distinguished from a river, not in this particularly, but what in your mind is the characteristic of the bay as distinguished from a river?

A. Well, a bay is a body of water nearly surrounded by land and a river is one that has a continuous current and narrowed down to the proper width of a river, and whatever the volume of the water requires, and has its trends or shores—like a river.

Q. Up by Fond du Lac and above that do you find well-defined banks of the St. Louis?

A. River?

Q. Yes, above Fond du Lac?

A. Oh, yes.

Q. Without any substantial indentations?

A. Yes, all the way.

Q. And below, from Big Island down, are there a large number of indentations of the shore and of very considerable size?

A. Yes, islands and bars.

Q. What I mean by that, you find Pokegama Bay and Little Pokegama Bay, Howard's Pocket, and Kimball Bay, a considerable number of bays on the Wisconsin side, do you not?

A. Yes, Big Pokegama and Little Pokegama and on this side there were a few small bays.

Q. And on the north side there were likewise indentations but not of as large area?

A. Yes.

Q. Calling your attention to Minnesota's Exhibit 12 I will ask you if that is one of the maps that you published and which appears to have been copyrighted in 1889?

A. Yes, that was one that was published on a larger scale than the other, covered less territory.

Q. And that also shows the State boundary between Minnesota and Wisconsin, does it?

A. Yes.

Q. Same as the other?

A. Yes.

Q. But on this the Wisconsin land and water are shown in blue, are they, and the Minnesota land and waters in yellow?

A. Yes.

Q. You said that you commenced publishing maps probably about 1884?

A. Somewheres along there, 1883 or 1884.

Q. And were those maps that you published gotten out from year to year right along up to the time you sold out?

A. Yes.

Q. Do you remember about when it was that you sold out your map business?

A. I sold out the map business in about '92. I published up till '92.

Q. I notice that this map Exhibit 12 shows the dock line on the Minnesota side as well as the dock line on the Wisconsin side?

A. Yes.

Q. At least indications of it for a certain distance and probably showed it as it was at that time, did it?

A. Yes, these dock lines were established by the Government, I think, and we took them from that.

Mr. Bailey: I offer Exhibit 12 in evidence.

Mr. Owen: Objected to as incompetent, irrelevant and immaterial.

Q. You see these red lines that is marked "State line" goes up not only through these waters up to the western boundary of Wisconsin but you carry the red line down showing the State boundary of Wisconsin on the west, between that state and Minnesota?

A. Yes.

Q. And where this perpendicular red line on this map marked "State boundary"—where that hits the river that is the falls above the Indian village at that point?

A. Yes. It started at the foot of the first big fall. Quite rapid, the river up there for a piece. George Stuntz told me he moved up the river as far as he could get with a canoe up there when the line was run between there so as to get as much as he could in Wisconsin.

Q. Who is George Stuntz?

A. He is an old settler.

The Commissioner: Stuntz is dead?

The Witness: Yes.

The Commissioner: Go ahead and tell what he said to you.

Mr. Owen: We object to it as hearsay.

The Witness: He said—he told me he was living in Wisconsin and he went up the river as far as he could with a canoe before he started that line down.

The Commissioner: Was he the man that made the Government surveys here in Wisconsin and Minnesota here at this point?

The Witness: Yes, a good many of them.

By Mr. Bailey:

Q. He was a surveyor and engineer?

A. Yes, sir.

Q. And came to the head of the lakes along about 1854 or earlier?

A. '54, I think; I am not quite certain. He first located down at Iron River on the south shore, and then he finally moved up to

Minnesota Point, end of Minnesota Point, and lived there a long time.

Q. And you say he lived in Superior—or Wisconsin?

A. Yes, when he made that survey he was living in Wisconsin.

Q. And that was the occasion, he said, for getting as much in Wisconsin as he could?

A. Yes, that's what I understood him to say.

Q. Mr. Stuntz's name was George R. Stuntz, wasn't it?

93 A. George R. Stuntz.

Q. He died about four years ago?

A. Longer ago than that; five or six years ago.

Q. Was he a man that was commonly referred to as to any old surveys here up until the time of his death?

A. I think he was quite authority.

Q. Testified in a great many cases, did he not, with reference to old surveys?

A. Yes.

Q. And practically surveyed this whole country around the head of the lakes, didn't he?

A. Well, he surveyed considerable over in Wisconsin and he surveyed a great deal of country north towards the boundary.

Q. That is north in Minnesota?

A. Yes, north in Minnesota.

Q. And did quite a bit right here in the City of Duluth and on Minnesota Point?

A. Yes, he did considerable work in the City of Duluth local surveying and laying out town lots and additions. This survey was made here in the winter of '56 and '7 by Eppler & Martin, all this country along the lakeshore here.

Q. You spoke about Mr. Stuntz running his boat up the river as far as he could. Did he make the survey of the west Wisconsin line?

A. Yes, line between Minnesota and Wisconsin.

The Commissioner: Is there any remnants left, any marks of the Indian village mentioned in Nicollet's map, in Fond du Lac?

The Witness: Oh yes, there is—let me see. There was an old warehouse there that has been moved lately. Yes, I recognize the place up there the same as I did——

Q. Isn't it true, Mr. Merritt, that there is right today a foundation of that old trading-post there at Fond du Lac?  
Is that the Indian village?

94 A. Oh, yes, that is the old Indian village.

Q. Isn't there stone foundation about sixty feet by thirty in size, right there now?

A. There wasn't any stone foundation to that old building.

Q. Perhaps I am talking about another building?

A. Yes; you are talking about another building which they call that but that was a later building; that was a brownstone building. The old warehouse was just as you get off of that first dock on the

lefthand side there and there's the foundation mark there yet. I saw them there last summer.

Q. You say get off at the dock on the left-hand side?

A. Left-hand side of the street.

Q. Left-hand side of the street as you get off on the Minnesota side?

A. Yes.

Q. That dock is now used by Clow & Nicholson?

A. No.

Q. It is at the foot of the street, main street?

A. Yes, towards Mission Creek.

The Commissioner: Then this is substantially true, that the Indian village site was about where Fond du Lac now is?

The Witness: Absolutely right exactly there, yes. It was there when we came, in a primitive state about as it was.

Q. Just as a matter of curiosity, what did it consist of, was it built up in any permanent way or just a lot of tepees?

A. Log cabins mostly and wigwams and so on. There was a very pretty valley there before the old Lake Superior and Mississippi grade cut off the point, where they had their burying grounds, shut off the view up the river to Mission Creek. Doesn't look as nice as it used to.

Q. Calling your attention to Exhibit 13 appearing to be a map of the head of Lake Superior, sectional map of the country around the head of Lake Superior, showing the cities of Superior and Duluth, 1876, published by James Bardon of Superior, Wisconsin, I will ask you if that map was in common circulation and commonly referred to at the head of the lakes in the early days along about the date when it appears to have been published?

A. I recollect the map very well.

Q. Do you know who James Bardon was?

A. Yes, knew him since he was a boy.

Q. To get it into the record, who is he?

A. James Bardon?

Q. Yes.

A. He used to be the big man of Superior; I guess he is yet. I knew him when he was a boy.

Q. He was there in the very early days of Superior, was he?

A. Yes. I recollect him, oh, away back in the '60's or '50's, I guess; I recollect him away back.

Q. You say he was the big man of Superior in those days?

A. Yes. Well, he has been since.

Q. Do you know whether he published a paper in those days?

A. Yes, he published a paper a good many years quite a number of years, I don't know how long.

Q. Do you know whether he owned a very large amount of land in Superior and vicinity?

A. Oh, yes, I know about that.

Q. Was this map in common circulation and commonly referred to in those days?

A. Yes, I recollect that map.

Mr. Bailey: We will offer it in evidence.

Mr. Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: It will be received subject to the objection.

Q. Just calling your attention to this old Bayfield map which has been marked Exhibit 7, I will ask you if you in the early days often heard that map referred to?

A. Why, before Mead made his survey this was the only chart they had of the lake and I often heard it mentioned but I never saw one, never happened to see one.

Q. Do you know whether, before Mead's map as you say, this map was the map in common use amongst navigators?

A. Oh, yes, I knew that by my acquaintance with the sailors, you know.

Q. You were acquainted with the sailors even before you were a sailor yourself?

A. Yes, sir; oh, yes.

Q. Was this line of soundings that appear on this Exhibit 7—that is that indicated substantially about where you have always understood the State line to be?

Mr. Owen: Objected to as leading.

Q. Or does it not?

A. Yes, sir, I understood the State line to come out more in the middle of this lower bay here. More like it is on my map; that is the way I understood it there.

Q. Of course this is drawn on rather a small scale and doesn't pretend to be exact as far as line is concerned. In fact, I think you testified that the soundings in St. Louis Bay or the depth there was just about the same clear across?

A. Yes, sir.

97 Cross-examination.

By Mr. Hudson:

Q. As a matter of fact, you didn't know just where the State line was at that time, did you?

A. Except by common understanding. We all understood it was there. We don't know where it is yet. You are disputing about it yet.

Q. There has been no controversy about the State line until in recent years?

A. There wasn't at that time, no.

Q. That is, until within ten or twelve years, probably, when the first controversy came up about the State line?

A. Well, I don't recollect how long it has been because I wasn't interested in any way particularly.

Q. Was there any controversy that came up about the State line prior to the action that was brought by Norton against Whitesides a few years ago?

A. No, I don't think there was.

Q. That was about the first controversy?

A. That was about the first.

Q. That came up about the State line. Of course, in preparing these maps, your map and Mr. Bardon's map and other maps, the dotted line that is marked "State line" was simply placed at that point without any reference to the fact as to where the State line was, but as showing that it was somewhere between the main shore on the Wisconsin side——.

A. Yes.

Q. ——— and the main shore on the Minnesota side, wasn't that?

A. Yes. My recollection is that we considered the bays as a portion of the lake and so made the line dividing the waters centrally until we came to the river at the Big Island. We had a clear idea, I think, that these bays were a portion of the lake and that we made the division there according to that.

Q. Everybody didn't have that idea that the foot of the river was at that point that you now put it, did they?

A. That was the general—we always thought that. I tell you I knew everybody in this country at one time.

Q. Mr. Barton's map, for instance, shows it between Minnesota Point and Wisconsin Point, doesn't it?

A. The mouth of the river?

Q. Yes.

A. Between Minnesota Point and Wisconsin Point. That would be the mouth of the river; the mouth of the St. Lawrence River practically is the mouth of the St. Louis River if I understand geography.

Q. That is the mouth of the St. Louis River is the mouth of the St. Lawrence River?

A. Yes, that is where the St. Lawrence River finally empties into the ocean. They give them these different names like Niagara River, Detroit River and Sault Ste. Marie, but it is really Kitchi Gammi Zebec the estuary clear to the mouth of St. Lawrence, the mouth of the St. Lawrence River, and you will find it in geography, scientific geography. You give the length of the St. Louis River you go from seven Beaver Lake to the mouth of the St. Lawrence.

Q. Then the portions between the mouth and the source of the river and the parts of the river are not necessarily continuous?

A. No; you take for instance up here the Embarrass  
99 River that heads north of the Mesaba Range, it runs through the Embarrass Lakes and empties into the St. Louis. It is the Embarrass River before it strikes the lake. It is the Embarrass River when it strikes the St. Louis, and the mouth is in the St. Louis, and that would have been the St. Louis River, only where they join the St. Louis River was the largest, carried the most water. Goes through four, five lakes, Embarrass Lakes.

Q. If your theory is correct, then would not St. Louis River be the mouth of Embarrass River? Why doesn't the river that is at the source of the watershed carry the same name to the final outlet in the ocean?



A. It is governed by the larger stream. The Embarrass is a branch of the St. Louis. It is a smaller river than the St. Louis.

Q. As I understood you to testify a moment ago you said the mouth of the St. Louis River was the mouth of the St. Lawrence River?

A. Scientific geography will give you the length of the St. Lawrence River clear up to seven Beaver Lakes. There is different names; that's all; but that is the largest river that empties into the lake, the St. Louis.

Q. The St. Lawrence River is larger than the St. Louis?

A. Certainly. All rivers the further they run the larger they are.

Q. Then it wouldn't be true, then, that that would be the mouth of the St. Louis River, if that is the largest river?

A. Why not? It isn't a branch of the St. Lawrence; it is the head of the St. Lawrence.

Q. So Embarrass River is the head of St. Louis River?

100 A. It is not, because it empties into the St. Louis River and is a branch of the St. Louis River. St. Louis River isn't the branch of the St. Lawrence. It is the St. Lawrence River—same river.

Q. You testified that you had lived here since 1844, was it?

A. No; 1856.

Q. How old were you then?

A. Twelve years old.

Q. And you have been familiar with the formation of St. Louis River and St. Louis Bay and the Bay of Superior and of the land-points, since that time, haven't you?

A. Yes.

Q. In 1856 Connors Point was in existence, was it not?

A. Yes.

Q. Substantially as it is today?

A. Yes.

Q. Rice's Point was in existence?

A. Yes.

Q. Substantially as it is today?

A. Yes.

Q. Grassy Point was in existence?

A. Yes.

Q. Substantially as it is at this time?

A. Yes.

Q. Minnesota Point was in existence?

A. Yes.

Q. And the Wisconsin Point was in existence?

A. Yes.

Q. The entrance or the outlet of this watershed that comes down the St. Louis River, St. Louis Bay, and Superior Bay, was between Minnesota Point and Wisconsin Point?

A. Yes.

Q. At that time. That was the only outlet?

A. Yes.

Q. That, so far as outlet at that point is concerned, it isn't very

different now except what has been made by the Government improvement, than it was in 1856, was it?—

A. Oh, it's about the same place. It used to move around considerably and there would become a flood and cut off Minnesota Point.

Q. But so far as the width of the points and the height of the points, they are substantially at this time like they were in 1856?

A. Except Rice's Point was a good deal higher. That has been all cut and leveled down. Minnesota Point, of course, is changing all the time, sand from the lake there, it is quite different now than it was when I first knew it, as far as surface is concerned.

Q. But this Rice's Point has been changed artificially?

A. Yes, sir.

Q. There has been more of a change on Minnesota Point and Wisconsin Point by the action of the waters than of Rice's Point?

A. How do you mean, at the ends?

Q. Yes; at the ends of the points at the entry?

A. Oh, well, when there was a rush of water it was liable to cut off these points and then they would form again, you know.

Q. Then these changes of bars, formation of bars in this watershed as the water flows down the St. Louis River have been changes that have taken a very long time to make—for instance, to form the bar like Rice's Point?

A. Oh, yes.

Q. Perhaps a hundred and fifty years?

A. May be longer than that.

Q. You would think longer than that, wouldn't you?

A. Yes; it's according to how much water and debris there was running down the St. Louis at the time they formed, you know—silt. If there was heavy water there they would form more quickly and if it was as it is now they would form more slowly. There was more water in the St. Louis sixty years ago on an average than there is now.

Q. And seventy-five years ago or in 1848 there was perhaps more than there was sixty years ago, or about the same?

A. Probably about the same then because it was all——

Q. Wouldn't you think, from your study and experience, your study of geology and the formation of these points, that these points, Wisconsin Point and Minnesota Point and Rice's Point and Connors Point and Grassy Point were substantially the same in 1848, that was about twelve years prior to the time that you became familiar with them, that they were substantially the same as they are at this time?

A. Oh, of course—of course they were.

Q. Then if this condition that you describe as characteristic of the bay or the lake at some time existed with reference to these waters, it was more pronounced back a hundred and fifty years ago than it was at this time; is that your theory?

A. More pronounced?

Q. The characteristics of the waters as bays or lakes?

A. Of these waters, St. Louis?

Q. Yes.

A. I don't know as I get you exactly. You don't want to try to catch me, you know.

Q. I wouldn't do that for the world, Mr. Merritt; you know that. I want to know if the particular characteristics of these waters, we will say a hundred and fifty years ago, we will draw on our imagination, were any more like a lake then than they are at this time?

A. Well, really, that's a fact in this way: now the upper

103 St. Louis Bay or what I marked on my map as St. Louis Bay up there between Grassy Point and the Big Island has in the last a hundred and fifty years filled up and formed the bars and will continue to do so unless they are dredged out, more so than the lower part of the bay because that Grassy Point bar was thrown up there and the debris settled in that upper bay. That was deep water one time up in there, you know, and it has been filled up by silt that came down the river.

Q. That is low places where there is——

A. Where there is shallow water. Was all deep at one time, say a hundred and fifty years ago; probably it was very deep water up there, all of these waters.

Q. And the silt that flowed down the river——

A. That reached the dead water. That is the sign of a bay instead of a river. That is the reason you can prove that it is a bay is because the silt will settle where it meets the dead water.

Q. Mr. Merritt, I call your attention to Minnesota's Exhibit number 1.

A. That is the old Mead map. I was here when they made that, when they surveyed it.

Q. And call your attention to the point, we will start in immediately east of Grassy Point?

A. Yes.

Q. There appears to me near the center between Grassy Point and Wisconsin a light-colored strip upon which soundings are marked?

A. Yes.

Q. These soundings are twenty-one, twenty-nine, thirty, twenty-seven, thirty-six feet, and so forth, and after getting past

104 Grassy Point we have soundings of twenty-six, twenty-four, twenty-two, *twenty-two*, twenty-one, and twenty feet. That carrying up west in a westerly direction along that same channel is the line of figures of soundings?

A. Yes.

Q. Up past an island that is marked—this was old Tollis Island but it is marked on Exhibit 3 as K—but to the north of that island seems to be the soundings of the river or a channel, don't they?

A. Yes.

Q. Then it runs in a southerly direction or southwesterly direction approaching nearly to the island, bearing westerly in a continuous channel, apparently, from these soundings that are west of a point that is marked on Minnesota's Exhibit 3 as "L. sand-bar" and

that is continued up in a northeasterly direction then until it strikes the southerly end of the island?

A. Yes.

Q. What do you call that channel that I have outlined?

A. I would call that the deepest water through the bay there.

Q. That is the deepest water through the bay?

A. Yes.

Q. That is the deepest water, then, from a point immediately south of Grassy Point up to the southerly line of the island, isn't it?

A. Deepest water in the bay seems to be, from that map.

Q. Carrying this on by the island we have it continuous showing soundings all the way up Fond du Lac?

A. Yes.

Q. Now, how was that formed; have you any idea of how that was formed?

A. I certainly have.

Q. I would like to hear you explain it?

A. Why this river came down kind of bank gravel probably or something. There's an island, ain't it (indicating)? Then it took off just as channels always do,—it took its trend off where it butted against this and struck something else here (indicating). The trend of the shore governs the channel of the stream wherever there is any current. For instance a stream naturally takes the belly, as we call it, of the shore where the shore trends in; then the channel will follow that until it strikes some obstruction or comes to some point and then it will cross over exactly as this bend indicates. If that bend is sharp it will cross sharp. If it is more slanting down river it will cross until it strikes something else and then it will come back. Wherever there is any current the trend of the shore always regulates the deepest water and throws that current to the point that has made the deepest water?

A. Yes.

Q. Then it is the scouring, then, of this point that you name as the channel of the waters flowing in that point that formed the deepest water, isn't it?

A. Yes, that's it; you can discover it right here, for instance, on Grassy Point there is a channel down a piece in the bay there and then it spreads out, you know and doesn't cut this channel.

Q. That is the Bay of St. Louis that is east of Grassy Point?

A. Yes; Bay of St. Louis, and the same way up here (indicating) when the volume of water strikes right at the point it makes deep water down there and finally follows down—There could be a channel wherever there is a current, you know. No one can deny that there isn't a current in these bays, because if the water rises two feet in the lake, from the northeaster or from any cause, it will back that water up to Fond du Lac and it will make a current going up or when the lake recedes, of course, the current will come down here. There is no well-defined channel through those bays except up in here (indicating).

Mr. Fryberger: That's above Big Island you have pointed.

Q. Here is eighteen feet, twenty-five feet, twenty-three—

A. There is a bar down there (indicating).

Q. There is a bar there at that point at point C. Then I understand you to say, Mr. Merritt, that this channel that we have followed commencing at Fond du Lac and which you say the course of it has been directed by the shape of the shore points—

A. Yes, by the trend of the shore.

Q. By the trend of the shore has been formed by the current of water flowing down through these points, is that right?

A. Yes.

Q. And that the main channel that starts in here at Fond du Lac strikes Big Island on the south?

A. Yes, that's what I consider the end of the river.

Q. What you consider the end of the river?

A. Yes. Here it runs out both sides.

Q. But it is shown on Mead's map here by the soundings to continue in a southwesterly direction?

A. The channel continues but the river—it's in a bay there. There can be a channel in the bay. You don't deny this is a bay, do you, Superior Bay?

Q. I am not testifying. I am trying to find out what you will say about it. Get Exhibit 3. I want to show him that.

107 A. That's a dredged channel.

Q. From the south end of the Big Island here running in a southwesterly direction over near the Minnesota shore between the Minnesota shore and the sand island with the letter "L" in it—

A. Yes.

Q. Between the Minnesota shore and that island is a channel?

A. Yes. I can see that on the map.

Q. Then that channel flows in an easterly direction from the most northerly point of sand island in an easterly direction almost to the easterly line of Big Island, doesn't it?

A. Here is the old channel there (indicating).

Q. Yes; and this would be the easterly line of the Big Island. Then it runs in a northeasterly direction to the island that is marked "K" on Minnesota's Exhibit 3?

A. That's a made island.

Q. Yes; there is a little island there?

A. Bar. I remember it.

Q. Then it shows due north of that island at K, quite close to the Minnesota shore, then flows in an easterly direction along the shore of this made island with a K on it, to a junction where number twenty-three in the artificial channel is marked on the map?

A. Yes.

Q. That is on Minnesota's Exhibit 3. Then it crosses the artificial channel at twenty-three between twenty-three and twenty-five shown—that is the sounding twenty-three and sounding twenty-five—shown on this Exhibit 3, following closely along the line of the natural channel to a point at C marked on Plaintiff's map Ex-

hibit 3, then it crosses in an almost easterly line on this map.  
108 There appears to be a bar at that point. That is the one you have in mind, perhaps. In an easterly line to what is marked "Coal dock."

A. Yes.

Q. Then it takes a southeasterly and southerly direction and strikes the artificial channel?

A. Across there (indicating).

Q. Crosses the artificial channel just west of the southerly end of Grassy Point and fairly adjacent to it?

A. Southeasterly end.

Q. Then it swings over to the Wisconsin—toward the Wisconsin shore or near the Wisconsin shore at a point marked G?

A. Yes.

Q. On Minnesota's Exhibit 3 following in the line of the red line on Minnesota Exhibit 3 to the point E and to the point A. Now I understand from your testimony that that is the deepest channel of water from Fond du Lac down to the head of Grassy Point. Am I right in that?

Mr. Bailey: That is objected to unless included in the question the reference to the bar which the witness has described.

A. Of course anybody looks at the map can tell that that is the deepest water. I don't know what you are trying to prove that that is all river, because there is a continuous channel down there. If that is it I should say that this upper bay has no characteristic of a river whatever. You never saw a river like that on the map or anywhere else. That's a bay.

Q. Are there scourings through a bay?

A. Wherever there is a current from one cause or another there will be scourings there, of course. The inflow from the lake  
109 may produce it just as much as the outflow.

Q. Is one of the characteristics of a bay the current running through it?

A. That would be a characteristic of a bay where it is fed by the river, because the river must discharge its water somewhere and it discharges it into the bay and the greater the volume of water discharged in the bay the greater the current that would cut the channel.

Redirect examination.

By Mr. Bailey:

Q. You have spoken several times about a channel in a bay, or any water, for that matter, following the shore line or trend of the shore. Now I will ask you if there was south of Big Island a very deep channel there through which the waters from the river above flowed?

A. Oh, yes, there was quite a deep channel.

Q. I will ask you whether in your opinion the waters of that



channel had any influence upon the sort of hook that we find over here where the Carnegie Coal Dock and Zenith Fuel Dock?

A. That is a pretty hard question, but what waters flowed through here would have a tendency to throw the water further over to that shore, no doubt, like where one river beats another it will throw the current over to the other shore.

By Mr. Fryberger:

Q. Calling your attention to this channel south of Big Island, was the water just as deep there before the dredging except channel down to this point marked B, as it was up the——

110 A. That was our idea. I never looked up the chart very close. We considered that just as deep a channel, but I don't know.

Q. And just as much current in it?

A. There was a good current come down through both places.

Q. But as I understand your testimony the south channel was the one that was navigated?

A. Yes, sir.

Q. Unless you had business on the North Shore?

A. Yes.

Recross-examination.

By Mr. Hudson:

Q. That was because it was shorter?

A. I suppose.

Q. On the kind of craft that you used at that time only drew a few feet of water?

A. When we first came here the ordinary craft only drew about nine feet of water, from eight to nine feet package steamer, about.

Q. And you could go almost anywhere?

A. Any place where there was eight or nine feet of water we could go.

By Mr. Gard:

Q. You had a boat that you navigated the St. Louis River there with?

A. Yes, sir.

Q. What was the name of it?

A. We didn't have it named.

Q. How much water did it draw?

A. It drew about three inches when it was light; about three feet when it was loaded with twenty thousand of lumber.

Q. In other words you could pretty near run on the dew?

A. Yes.

Q. In other words, you didn't have to search for a channel?

A. I will tell you how we had to search for the channel.

111 We poled that scow a good deal when it was calm. We knew these channels very closely. We knew all about them be-

cause we had to start the boat, pole her up strong enough so we could cross the deep channel. I knew that channel at one time just as perfectly as anything could be, because I spent years around there.

Q. Mr. Merritt, I show you Minnesota's Exhibit 1?

A. Yes.

Q. There is a channel here marked H?

A. Down in the west of Minnesota Point,—or Grassy Point.

Q. You knew of that channel there?

A. Oh, yes.

Q. You have seen boats navigating that channel?

A. Oh, no, we always used to go across this way (indicating).

Mr. Bailey: Is that what you referred to, you pointed to a line? Was that A, B, D?

The Witness: Yes.

Q. If I understand, Mr. Merritt, you went across there when you went on the south side of the island?

A. Yes.

Q. And you usually went on the south side of the island?

A. Yes.

Q. But you knew of this channel marked H?

A. Absolutely. Of course I delivered lumber and supplies for all these contractors for the road.

Q. And you have seen boats navigate that channel, of course?

A. Well, sir, I don't know as I ever did.

Q. How did you know there was a channel there?

A. Why, because I knew about Mead's survey and acquainted with this map here when Adam was a baby pretty near, when he first got it out, and, as I say, we had a little scow and used  
112 to supply these people up here and poled all over this.

Q. You have poled all over that channel marked H?

A. You bet your life, many a time give her a scoot and go across.

Q. And you found pretty deep water?

A. Just the same as marked.

Q. Mead's map shows the proper depth there so far as you know?

A. Yes, so far as anybody knows.

Q. What is the earliest navigation on the St. Louis River you have knowledge of?

A. '56, fall of 1856.

By Mr. Owen:

Q. What class of vessels were navigating at that time?

A. Well, they had small steamers and there was a boat used to run up there, a sailboat called the Algonquin. You could go up there on the Algonquin for three dollars and generally take you three days to go up, and get your board. She was a sail vessel. That was the first that navigated that river after we came here.

Q. How much water did that draw?

A. Well, small schooner I should think by the build of her she would draw four feet of water light.

Q. How long was it after you came here was it when the steam-boats made their appearance?

A. Fall of 1856 Steamer Seneca was here.

Q. How much water did that boat draw?

A. Oh, I presume six or seven feet, as I remember.

Q. That was the first steamboat, was it?

113 A. Yes. Well, no, there was another one, I forget the name of that, a little side wheel steamer.

Mr. Bailey: Carson?

The Witness: Carson, a little side wheel steamer friend of mine was engineer on it, Ed Ryder.

Q. How far up did the Seneca navigate?

A. She went to Fond du Lac.

Q. This other one you mentioned?

A. Didn't draw but a couple of feet of water. She would go to Fond du Lac. They all went to Fond du Lac.

Q. Most any of these boats could go anywhere in the bay?

A. Go any place where it was deep enough.

Q. It was deep enough almost all over for them?

A. There's places in that upper bay that ain't deep enough for a canoe, hardly.

Q. They didn't have to search very much for a channel?

A. Yes, we did, but the way they used to guide themselves in these different channels was by the grass. The grass would come up in the spring in the more shallow water. It was very easy to get up there.

By Mr. Gard:

Q. As I understood you, you put the State line on your map there on the theory that the Superior Bay and St. Louis Bay are arms of the lake and not a river; isn't that right?

A. Yes, and on the general understanding here we had in the old days.

Q. Who did you have an understanding with?

114 A. Well, we people that lived here in the old days, old mossbacks, fisheaters, whatever you are a mind to call them.

Q. You said there was never any contest about the State line?

A. No. We all knew where it was in the middle of the lake here, middle of the bays, no chance for a contest.

Q. And that was on the theory, as I say, that you considered the Superior Bay and St. Louis Bay an arm of the lake and not the river?

A. Yes. We considered the river came in up here at Big Island where it divides there in to the north and south channel.

Q. Now, Mr. Merritt, you said that Minnesota's Exhibit 13 was in common circulation at the head of the lakes, did you?

A. Yes, I think it was. I know I had it.

Q. You see, don't you, that that is marked "Mouth of St. Louis River" at the entry between Minnesota and Wisconsin Point?

A. Well, that is the mouth of the St. Louis.

Q. That is what you considered the mouth of the St. Louis River?

A. Yes. And this is where the river commences to run through the bays, and this is the mouth of it where it runs into the Big Lake.

Q. But you considered the mouth of the St. Louis River between Wisconsin and Minnesota Point?

A. Yes; of course it runs through there, don't it? No other place for it.

Mr. Bailey: The same as the St. Lawrence is the mouth of it, it runs through there, too?

The Witness: Yes.

Mr. Fryberger: Counsel asked you something about a boat drawing fifteen feet of water. I will ask you whether or not prior  
115 to the time this channel was dredged a boat drawing fifteen feet of water could go up to Fond du Lac at all?

The Witness: Never did.

Q. Through any channel?

A. Never did.

116 Rec'd July 19, 1917. D. E. Roberts, Commissioner.

WEDNESDAY, July 18, 1917—10 a. m.

The hearing was resumed before the Commissioner, Hon. David E. Roberts, counsel for the respective parties being present.

The taking of the testimony was resumed as follows:

ALFRED MERRITT, was called as a witness by the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Merritt, where do you reside?

A. I reside in the City of Duluth.

Q. And have for how long?

A. I have held my residence here and in what is called West Duluth, or used to be called Oneota, ever since 1856.

Q. You are a brother of Leonidas Merritt who was on the stand yesterday.

A. Yes, sir, a younger brother.

Q. And what is your age, Mr. Merritt?

A. I was 70 years old the 16th of May of this year.

Q. So, you must have been born in 1847?

A. In 1847.

Q. And came to Duluth when you were nine years old?

A. Nine years old past.

Q. And your parents located at what is Oneota, now part of the City of Duluth, at that time?

A. Yes, sir. My father was there in 1855; my mother came in 1856, with us five boys.

Q. And Oneota, where you lived, is just a little easterly or  
117 Grassy Point, is it not?

A. Yes, sir.

Q. And you continued to reside at that point until about how many years ago?

A. At that point and Fortieth Avenue until about ten years ago.

Q. And at that time you moved up into the eastern end of the city?

A. Yes, sir.

Q. What did you do in your boyhood and early manhood? What was your business in those days?

A. As a boy I used to boat around the bay and have my fun in boats and sailing. As I grew to manhood I worked in the lumber woods, and sailing.

Q. Did you at any time navigate these waters between Wisconsin and Minnesota points and Fond du Lac, say? That is, I mean in a commercial way.

A. In 1864 I was sailing on the lake, and we used to load lumber at a place called Milford, and then at Oneota and Rice's Point, and go down the lakes. In 1868 I was a pilot on the tug Agate, towing stone; took the stone above Fond du Lac, at Sandstone, to the Superior entry; and after that I was navigating the rivers and bays here, at the head of the lakes.

Mr. Fryberger: Did you show where Milford was located?

Mr. Bailey: I will have him mark that on the map.

Q. Did you have a pilot's license?

A. Yes, sir.

Q. Calling your attention to Minnesota Exhibit 3, I will ask you if you can locate on that map where Milford is? Here is the furnace company dock, and here is the Zenith Furnace Company property. (Indicating on the map.)

A. This was Milford at that time, and this was Kingsbury's Bay. (Indicating)

118 Q. Now let us get a mark of some sort on that. I will ask you, Mr. Merritt, if you will mark here with an M, we will say, to represent Milford?

The Commissioner: There is an .M. on there.

Mr. Bailey: All right.

Witness: It is on the old original map there, on the old survey, marked Milford. This is Milford right in here; that is where the saw mill was, and here is the dock. (Indicating.)

Q. Just put a P there, will you, where you say Milford was?

Mr. Powell: Why not mark it Milford?

Mr. Bailey: All right; write it out with the consent of counsel,

I will write "Milford" just there.

Mr. Powell: I think that is better; it will not be so confusing.

Q. That was about the point I have marked "Milford" on Minnesota Exhibit 3 where it was located?

A. Yes.

Q. And you continued to navigate these waters for how long a period; that is, until how recent a date? I mean in a commercial way. Of course you have been up and down for other purposes.

A. Yes. I was just trying to think back. I think it has been 34 years since I quit sailing.

Q. Along about 1883?

A. Somewheres there, yes.

Q. But up until that time you were sailing up and down these waters a good share of the time, were you?

A. Yes, sir, and the lake.

Q. What experience did you have on the main body of Lake Superior as a sailor?

A. I was for years aboard the old schooner Pierpont, before  
119 the mast. In the winter of 1869-70 we built a schooner, scow schooner, and I was the master, captain.

Q. In that connection, Mr. Leonidas Merritt, yesterday, said something to the effect that he assisted in or had something to do with hauling freight for the building of the Lake Superior & Mississippi Railroad, what was later the St. Paul & Duluth, and is now the Northern Pacific.

A. Yes. We had a scow at that time, a scow with a couple of lug sails on, and we used to sail when we could and pole when we could not sail, and we carried the freight for them up the bay, and also delivered the lumber for the old Clark house, and different buildings here in Duluth, from the Oneota mill. That winter we built a scow schooner, the Chaska.

Q. When you were hauling that freight, from what point to what point did you haul it, mostly?

A. Most of the freight in the shape of lumber was taken from the Oneota mill, and in the shape of iron and stuff for the railroad was taken from the end of Connor's point, the dock that was there, called Paton's Point.

Q. And where was that hauled mostly? Anywhere along the line of the road?

A. Yes; we took it into what is called Spirit Lake now—I remember quite a lot of stuff—and distributed it along at different places.

Q. Spirit Lake that you refer to is the Spirit Lake shown on these plats just above Big Island?

A. Yes, sir, just above Big Island.

120 Q. And did you deliver this freight at points from there on down towards Duluth, wherever it was needed for the construction of the railroad and wherever there were dockage facilities?

A. Well, we delivered some at what we call the Knowlton Place,



but mostly went to Spirit Lake, out there. A man by the name of Graham was there doing the work.

Q. Where is Knowlton's place?

A. Knowlton's place is—let us see—what was it we used to call it?—just above Indian Point.

Q. Some of us later settlers will have to find out where Indian Point is.

A. The first place above Milford was Crosier's Point, and the next was Indian Point. Crosier's place came above that, and below Marshall's place, between Marshall's place and Indian Point.

Q. Were you familiar during all that time with the usual course of traffic in these waters?

A. Yes, sir.

Q. Now calling your attention to Minnesota Exhibit 3, I will ask you when going up these waters towards Fond du Lac, and when you got opposite Grassy Point, what was the course that traffic usually and generally took from there on up towards Big Island?

A. We avoided these here—there was a rush bed here. (Indicating.) We went here and just skirted this island here, and up through here.

Q. The line you have just pointed to is substantially the line marked A-E-G-B-D on this map?

A. Yes.

Mr. Fryberger: Marked in red?

121 Mr. Bailey: Marked in red.

Witness: Yes, practically that is the point. There was a point of rushes came out here, and we went here. (Indicating.)

Q. Where you say those rushes were was just easterly of the red line between the points marked B and G?

A. Yes, sir.

Q. Now was there another channel southerly of that, that was sometimes used?

A. Yes; when we went to Milford we used this other channel here. (Indicating.)

Q. I say southerly of this.

A. Oh, southerly?

Q. Yes. Well, according to the wind sometimes; we used to go over here, but not for tugs as a general thing. Here we are.

Q. The line you are just pointing to is the line marked E and curving to the left around to the point F?

A. Yes.

Q. You say that was sometimes used?

A. Oh, sometimes used.

Mr. Fryberger: Not for tugs?

Witness: No; not for deeper draught boats.

Mr. Bailey: I am now putting an H on Minnesota Exhibit 3, just easterly of the line B-G.

Q. Now calling your attention to this sort of white curved line on which I have placed an H on this Minnesota Exhibit 3, I will ask you if that line or channel was commonly used at all?

A. Well, just for to go to Milford we used that there.



Q. That is just when you had a load to go up to some point on that line?

A. Yes, on that line.

Q. Now was there, or was there not, along towards the  
122 westerly end of that which appears to be a channel and on which the H is placed, a bar or a shallow place along just easterly of the point marked C? This is marked C.

A. There was a bar—you will see it on the original map—there is a bar there marked in 7 and 8 feet over here; we used to avoid that by going in here sometimes; but that is above Milford dock.

Q. And was this line which is marked A-E-G-B and C a better line for navigation than to go around on this curve marked H?

A. Oh, yes, it was a good deal straighter; it was a better line, sure.

Q. And practically all the traffic took that line?

A. Yes, sir.

Q. Now in taking this line marked A-E-G and B, supposing you are going to the north of Big Island, what would you do when you got to the point B?

A. We used to go straight through here to the north of this island here. (Indicating.)

Q. You see this is sort of an indication of an old channel; this is the dredged channel?

A. Yes, sir.

Q. Is it or is it not true that you would take substantially the line marked B-C from that point on to get to the channel to the northerly of Big Island?

A. Yes, sir.

Q. Now, Mr. Merritt, calling your attention to a paper which is marked Minnesota Exhibit 13, the so-called Bardon map, were you familiar with that map, and was it a map in common use in the early '70's, along in '76, when this appears to have been published—

A. Why, yes.

Q. —at the head of the lakes here?

A. Yes, sir.

Q. And is that a well-known map, that is commonly referred to even today by the early residents as being the map, or one of the few maps, in use in those early days?

A. What date is this?

Q. This is '76, this particular one.

A. Yes, sir, it was.

Q. And was that map always, so far as you know, considered accurate?

A. Yes, sir, so far as I know.

Q. Now calling your attention to the line on this map, dotted line, which is marked "State Boundary Minnesota and Wisconsin," you see that line as it runs up these waters, do you?

A. Yes, sir.

Q. Is it or is it not true that that line substantially was considered and generally known amongst the settlers here at the head of the lakes as the State boundary between Minnesota and Wisconsin?

A. It was; yes, sir.

Q. What were the waters between Grassy Point and Rice's and Connor's point usually and generally known as, that is, by what name?

A. St. Louis Bay.

Q. And what were the waters between Rice's Point and, say, the upper end of Big Island known as in the early days?

A. Between Rice's?

Mr. Fryberger: You have got that wrong. You said Rice's Point.  
Mr. Bailey: I should have said Grassy Point and the upper end of Big Island.

A. Upper St. Louis Bay, or St. Louis Bay, or St. Louis.

124 Q. Have you any maps or diagrams of this territory, of your own?

A. Well, only a plat, the government plat.

Q. Have you got that here?

A. Yes, sir.

Q. Will you produce it, please?

A. That is one; and that is another.

Q. Well, let us take this marked first.

(The witness produced a red book from which two small maps were cut. One of the small maps was marked Minnesota Exhibit 14 and the other was marked Minnesota Exhibit 15.)

Q. Showing you a paper which has been marked Minnesota Exhibit 14, I will ask you if that is a plat of township 49-15 which you have just had cut out from a book of plats in your possession?

A. Yes, sir.

Q. And is Minnesota Exhibit 15 a similar plat?

A. Yes.

Q. Of 49-14?

A. Yes, sir.

Q. Which you have just cut out from this book?

A. It is.

Q. Now just let us see the book a minute, to get an idea of about how many you have in there?

A. Range 10 to 15 west.

Q. What townships?

A. It goes clear up to the British boundary.

Q. Clear from the head of Lake Superior?

A. Yes, sir.

Q. And are these two plats which you have just cut out of this book taken from this book which covers the plats of each of the townships from ranges 10 to 15 west?

A. Yes, sir.

Q. And which go from township at about the head of the lakes to the Canadian boundary.

A. Yes, sir.

125 Q. How many townships are there between here and the Canadian boundary?

A. I don't know.

Q. About 49 to 70; isn't it?

A. I don't know just the number.

Q. Well, see what the last one is.

A. They may not all have been surveyed at that time, but there are some of the township boundaries there.

Q. The townships run substantially from 49 up to about 70, do they not?

A. Yes, somewheres up there.

Q. And you have in this book plats of most of the townships in that territory?

A. Yes, sir.

Q. From ranges 10 to 15 inclusive, both ways, west?

A. Yes, sir.

Q. Now, how long have you had this book from which these two exhibits were cut?

A. It must be about 38 years or more.

Q. About 38 years?

A. Yes, I think so, or 40.

Q. And were these plats in common and general use throughout the head of the lakes region?

A. Yes, sir.

Q. And in this territory?

A. Yes, sir.

Q. This plat book, which seems to be bound in red leather, by whom was that gotten up? That is, who compiled them and put them together?

A. My brother Leonidas and Jewett of St. Paul; used to call it the Jewett map.

Q. And was that gotten up during the time that your brother Leonidas was in the map business, as he testified yesterday?

A. Yes, sir.

Q. Now calling your attention to Minnesota Exhibit 14, 126 that appears to have the words "St. Louis Bay" marked on it, and just to the right of those words, the words "Wisconsin State Boundary." I will ask you if the words "Wisconsin State Boundary" are on what is known as Big Island?

A. Yes, sir.

Q. And were the waters just westerly of Big Island known in the early days, as far back as you can remember, and by common repute,—and were they or were they not known as St. Louis Bay up as far as that?

A. Yes, sir, they were. Where the waters divided there this was St. Louis Bay.

Q. Now where was the mouth of the St. Louis River with reference to this island?

A. Well, I always considered the mouth of St. Louis River where it divided here and went into St. Louis Bay.

Q. That is just at the head of Big Island?

A. Yes, sir.

Q. That is where St. Louis River strikes Big Island?

A. Yes, sir.

Q. You considered that the mouth of the river?

A. Yes, sir.

Q. And from there on down——

A. St. Louis Bay.

Q. St. Louis Bay; and known as upper and St. Louis as divided by Grassy Point?

A. Yes, sir.

Q. Was this Minnesota Exhibit 15, which appears to be a township plat of 49-14, also in common use?

A. Yes, sir.

Q. And commonly referred to, and business done on the strength of that plat?

A. Yes, sir. That is a copy of the field notes and plat.

Q. Field notes?

127 A. Yes; government survey as surveyed by Martin, Eupler, and Burt. Burt was a son of the man who invented the Solar compass.

Mr. Gard: Are you going to offer those exhibits in evidence?

Mr. Bailey: Yes. I will offer them right now.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial and not the best evidence.

The Commissioner: Admitted, subject to the objection.

Q. State whether or not the transportation out of Milford, that is, by water, was or was not usually in craft of very small draft, scows, or something like that.

A. The lumber that was shipped to Superior in the early days was always in open scows, and the lumber that was shipped down the lakes, on the old Ford—I remember the George W. Ford being up there, and the schooner Fretter (or Fratter) of Ontonagon, and the Pierpont; of course they were lake vessels and they went down the lake.

Q. Now calling your attention to Minnesota Exhibit 9, which was produced by your brother Leonidas, yesterday. Was that map in common use here at the head of the lakes at the time it was published?

A. Yes, sir.

Q. And do you know whether your brother Leonidas went to considerable expense and trouble to get a right, or not, and have some surveys made, and so forth, in order to——

A. I don't know exactly as to that. This is the Jewett map?

Q. Yes. Here is another one published in 1889; that is a year later, and in a little larger scale.

A. Yes.

128 Q. Was this also—Minnesota Exhibit 12—in common use here at the head of Lake Superior, and considered correct?

A. Yes, sir.

Q. Now calling your attention to the red line on this map, marked in one place "St. Louis Bay" and the other "Bay of St. Louis", and farther down "Bay of Superior"——

A. Yes.

Q. What did that line indicate?

A. Generally considered state line.

Q. And you see that red line is carried on over to the west of Douglas County?

A. Yes.

Q. Between Douglas County and Carlton County. Did you know George R. Stuntz in the early days?

A. Yes, knew him well.

Q. Do you know whether he as a surveyor ran out the state line as between Wisconsin and Minnesota on the westerly side of Wisconsin and easterly side of Minnesota?

A. So he told me.

Q. He is dead now, is he not?

A. He is dead.

Q. What if anything, did you hear him say with reference to that, or how he did it?

A. Well, he told me he went up in a canoe as far as he could get up possibly, so as to take all the land in Wisconsin he could; but he said he rather thought he went a little too far.

Attorney-General Owen: Now we object to that as hearsay, and move to strike out the answer.

Witness: Of course this is not to go on the books: I have got the axe that blazed the line.

Q. You have got the axe that blazed the line between the  
129 two states?

A. Between Wisconsin and Minnesota—in my possession.

Q. Given to you by Mr. Stuntz?

A. Given to a man by the name of McDonald, who helped Mr. Stuntz, and then by McDonald given to me. Of course this is immaterial. I also have the compass, or had the compass, and the State has got it now, that surveyed the line—the Solar compass.

Q. The one he used?

A. The one he used.

The Commissioner: Which State has it—Minnesota?

Witness: Yes, Minnesota has it. I really ought to have given it to Wisconsin, but I gave it to Minnesota, and it is in the Historical Society now. Bought it of the widow.

Q. These waters between Rice's and Connor's Points and up above, or just above Big Island, which you have described as upper and lower St. Louis Bay, what is the character of those waters? I am asking you this with the idea that you will bring out what is in your mind as distinguishing these waters as a bay rather than a river. Just state in your own way why you so consider them, and why they were so considered.

A. Well, it is on account of the width, the width of the water, and then the upper St. Louis Bay with islands in it, and on account of the general shallowness of the waters; but principally as to their width, distinguishing it from the river above.

130 Q. The river above this point which you have described as the mouth, is it confined within quite well defined banks nearly all of the way?

A. Yes, sir.

Q. And as you get beyond the mouth, what is the fact as to whether the banks are well defined, or whether the waters are spread out, spread out over a considerable expanse?

A. That is, you mean the St. Louis River above the island?

Q. No, from the westerly, or perhaps southerly, southwesterly, end of the island down towards Rice's and Connor's Point. What is the fact as to whether the waters spread out there to a considerable width?

A. Yes, sir; they spread out there as shown by the map.

Q. Do you know about how far it is across, how far across these waters it is say just at the easterly of Big Island?

A. It is over a mile.

Q. And take it above Big Island, what in a general way is the width of the waters above that point? Of course I understand it is different at different places, but in a general way.

A. Yes. I should think they are about less than a quarter of a mile wide there, considerably less.

Q. Would or would not that be at the widest point that you speak of?

A. Yes, sir.

Q. A good share of the way are they a good deal narrower than that above Big Island?

A. Yes, sir.

Q. Do you know about what the narrowest point up between Big Island and Fond du Lac is, and what is known as the village of Fond du Lac?

131 A. Well, opposite New Duluth there it narrows down very narrow, probably not over 200 feet, and this side of Fond du Lac I remember the tug channel was about—oh, I should not say it was over 50 feet wide; possibly 100, but not over that. That is, the navigable water.

Q. Calling your attention again to Minnesota Exhibit 3 and this curve on here that indicates some kind of a channel marked H. I will ask you if such channel as there was at that point was narrower or wider than the channel on the line marked A-B?

A. It was narrower.

Q. To what extent would you say? how would they compare?

A. Oh, I should say this was at least twice as wide or more in here.

Q. That is, A-B was twice as wide?

A. Yes.

Q. Do you know the meaning of the words "Fond du Lac"?

A. Well, as I understand it, it is the head of the lake or bottom of the lake—Fond du. I am not a Frenchman, but that is what I understand—the bottom of the lake.

Q. I think I saw some place where you described it as where "the bottom meets the top," or something like that.

A. Yes.



Q. What is the fact as to whether there were tides in these waters, upper and lower St. Louis Bay?

Attorney-General Owen: Objected to as calling for a conclusion of the witness, on the ground that he is not shown competent to testify upon that subject.

The Commissioner: Go ahead, Mr. Merritt, and answer the question.

132 A. There used to be a tide there; there is a tide there, especially when there comes a northeast wind and raises the water in the lake. I know in towing logs, if I may be allowed to explain——

Q. Explain.

A. When I used to tow logs up to Milford, I would catch it; when the tide went up the bay I could tow very easily, because I did not have to tow against the current. When the current changed, why, then I had to wait. But the tide used to go up that way.

Q. How far up did the tide go?

A. Well, I have seen it go up to Fond du Lac, raise the water at Fond du Lac, as far as Fond du Lac. I think the Fond du Lac fellows will bear me witness as to that.

Q. And would logs that were left there in those waters float both ways, according to the tide?

A. Yes, sir.

Q. Can you give us any idea how far you have known logs to float upstream, that is, up towards Fond du Lac, from any given point?

A. Well, I have not known logs in the main river going up, because I did not happen to be there when the tide was, but I know the tide goes as far as Fond du Lac. Before the canal was built I have seen blue lake water come two-thirds in St. Louis Bay—the lake water itself.

Q. When you say two-thirds in St. Louis Bay——

A. The lower St. Louis Bay.

Q. You mean two-thirds of the way up?

A. Yes, sir; blue lake water.

Q. Do you know what the fact is as to the height of the water at Fond du Lac as compared with the water in the main body of  
133 Lake Superior?

A. Well, I don't know, except when I was on the survey of the St. Paul & Duluth or Lake Superior and Mississippi Railroad, we run down and took a level at Fond du Lac of the water, and the wind was southwest then; when we got down here to Minnesota Point we took a level, and we found out that Fond du Lac was two feet lower than it was here, because it was a northeast wind when we took the level here.

Q. That is, the water at Fond du Lac was two feet lower than it was at Minnesota Point?

A. Yes; I remember that all right. One place it was a northeast wind and the other it was a southwest wind.

The Commissioner: It depends on the direction of the wind then?  
Witness: Yes.

Q. Calling your attention to Minnesota Exhibits 8 and 7, the so-called Bayfield map. Was that map a map which was in common and general use in the early days and well known amongst navigators?

A. We had no other plat except the Bayfield plat up till after—Meade was here in 1860—General Meade, or Captain Meade, of the Engineer Corps, was here in 1860, and then he came in 1861 again; he surveyed the head of the lakes in 1860; and then he came in the spring of 1861, but the Rebellion had commenced and he went away, joined the Regular Army. He was a captain of engineers, in the Engineers' Corps.

Q. Then, that was the only map in use up to that time?

A. Yes, sir. And I think that they did not get the real chart out until 1866—the chart of the head of the lakes. The Meade  
chart was published, I think, in 1866, and this was the chart  
134 they used at that time, the Bayfield chart.

Q. Just state what you know or what is generally understood as to the accuracy of that map.

A. It is reported, as understood, that Meade said it was the greatest engineering feat that had ever been, and the quickest time and the correctest map that had ever been made up to this time—that Bayfield chart.

Attorney-General Owen: That is objected to on the ground of hearsay, and I move to strike out the answer.

Witness: And it was so correct that the government, when they made their survey in 1866 and finished it, used the Bayfield chart for all the Canadian waters down there, and I think they do yet, today.

Attorney-General Owen: Same objection to this answer, and the same motion.

Q. I take it the marks as to where Duluth and Oneota are were put on at a later date.

A. Yes, sure.

Q. There was no such place?

A. This part here.

Q. On Exhibit 7.

A. The pickets were standing; I have seen the pickets here at Roy's place there, the Hudson Bay fort.

Q. You are pointing to a point marked on this exhibit, on the Wisconsin shore "Old N. W. Fort"?

A. Yes, that is it.

Q. And you say the pickets were there when you came here?

A. Yes, I saw them.

Q. And it is substantially that location?

A. Yes, that is the location.

- Q. And I see they have Oneota marked on here.
- 135 A. There was no Oneota then.
- Q. Was that correctly marked on here?
- A. No, sir; it ought to be away over here.
- Q. That must have been put on at some later time, of course. Now there appears to be a line of soundings marked on here. You have examined that, have you?
- A. Yes, sir.
- Q. And those represent substantially what you have testified to as the state line?
- A. Yes, sir.
- Q. Except possibly through lower St. Louis Bay.
- A. Yes. They have given Minnesota too much there, it looks, from the sounding, but this here is correct, and there was deep water through there of course. (Indicating.)
- Q. And just as deep as on the north side?
- A. Yes, sir.
- Q. That is, the Minnesota side?
- A. Yes.
- Q. So that the water through lower St. Louis Bay, you say, was just as deep close to the Wisconsin shore as it was the Minnesota shore?
- A. Yes.
- Q. As a matter of fact do you think it was any deeper over there?
- A. About the same, although we used to go through this part here.
- Q. That is, you went on the Minnesota side?
- A. Yes.
- Q. Because there was not anything over—
- A. No.
- Q. There was not anything on the Wisconsin side?
- A. No.
- Q. That is the only reason?
- A. That is all.
- Q. Now up above Grassy Point is this line of soundings which go up southerly of Big Island where the figures are marked on
- 136 there. Is that almost identical with the usual line of navigation?
- A. Yes, sir.
- Q. During all the times that you knew anything about it, up to the time the channel was dredged?
- A. Yes, sir.
- The Commissioner: Mr. Merritt, one of these exhibits is marked "Track Survey". Do you know what that means?
- Witness: Track Survey?
- The Commissioner: Yes.
- Witness: I don't know; no.
- Mr. Fryberger: We will bring an engineer from the Engineer's office.

(A short recess was here taken.)

By Mr. Bailey:

Q. I want to ask just one or two questions more, Mr. Merritt. Calling your attention again to Minnesota Exhibit 3, you said that some of the lake vessels used to come up through this channel and load at Milford?

A. Yes, sir.

Q. Did they load right at Milford, or was the lumber taken on scows out to them?

A. There was a dock built out and they scowed the lumber from the mill out to this dock and then laid it on the schooner.

Q. That was on account of the shallow water?

A. Yes.

Q. So that a schooner could not get up to the dock?

A. Not up to the mill dock.

Q. Did these carriers that were so loaded with lumber have to cross this bar that you have indicated just easterly of point  
137 C—it comes right in here—or did they come back through the channel?

A. They came back through the deeper water.

Q. So they did not cross this water that appears easterly of point C?

A. No.

Q. The water too shallow there?

A. The water too shallow.

Mr. Fryberger: Ask him what they drew.

Q. What did they draw?

A. The schooner Pierpont drew nine feet fully loaded, 150,000 feet of lumber and shingles and stores and lath they used to pile in, but she never loaded full up there. Loaded the hold full and finished out down below.

Q. Do you know what she drew as she loaded there?

A. She drew probably seven feet and a half.

Q. Now calling your attention to Minnesota Exhibit 1, which I think I have not called your attention to while you were on the stand. This is the Meade map so-called.

A. The Meade map; yes, sir.

Q. You were familiar with that in the early days?

A. Yes, sir.

Q. With reference to Milford as indicated on this map, is there anything on this map that indicates where Milford was?

A. I think it is marked on the point there, five houses—that is what there was, and there at the head of the slough there ought to be marked a boom. Do you see it there. Here it is.

Q. Here is the word "Boom," which is just northerly and a trifle westerly of the point marked C in red, and then on the point just below that there are three dots. Do you know what those  
138 indicate?

A. Those are houses.

Q. And then a little farther to the east there are two dots.

A. Yes, sir.

Q. What do they indicate?

A. They were houses; and then east of where it is marked "Boom" there should have been a dot there for a mill.

Q. Well, there is a dot there all right enough.

A. Well, that is the mill.

Cross-examination.

By Mr. H. V. Gard:

Q. Mr. Merritt, you say you came to Duluth in 1856?

A. Yes, sir.

Q. And was twelve years old at that time?

A. I was nine years old, nine years the May before, that spring.

Q. From where did you come?

A. Came from Austinburg, Ashtabula County, Ohio.

Q. You were born in 1847?

A. Born in 1847; yes, sir.

Q. Now you say that in your early boyhood you sailed on the waters of St. Louis Bay here and river, in boats?

A. Why, yes, we had small boats, you know.

Q. What kind of boats were they?

A. Well, boats, mackinaw boats.

Q. How much water did they draw?

A. With center-board and all they would draw over three feet probably, maybe four feet.

Q. So you could go anywhere on the St. Louis Bay?

A. Yes, sir.

139 Q. Or on Superior Bay?

A. Yes, sir.

Q. How far up did you go with your sail boats?

A. The first time I ever went to Fond du Lac was in the spring of 1857.

Q. How did you go then?

A. Went in a mackinaw boat, Mr. Ely's mackinaw boat.

Q. In what boat?

A. Mr. Edmund F. Ely's mackinaw boat.

Q. How much water did that draw?

A. Oh, she was a center-board boat. With the center-board down she would draw about three feet of water.

Q. You sailed up, did you?

A. Yes, sir, at that time.

Q. And when did you first navigate the waters there in a larger boat?

A. I cannot tell just exactly the month, but it was about the middle of the summer of 1868 that I was pilot on the tug Agate, an Ontonagon boat that was chartered by the day to carry stone to the old Superior entry.

Q. To the Superior entry, from where?

A. From Fond du Lac. From Fond du Lac we were taking the stone to the Superior entry.

Q. How much water did that boat draw?

A. She would draw when she was wooded up a little over six feet. We used to carry wood in those days.

Q. How long did you run on that boat?

A. I delivered the boat to Ontonagon some time late in the fall.

Q. Of what year?

A. Of 1868.

Q. Just ran it part of one season?

A. Part of one season.

Q. What kind of boats did you tow?

A. We towed scows, deck scows, with rock, from Fond du Lac down; I think sometimes we had three, two and three scows  
140 generally in tow.

Q. And how much water did the scows draw?

A. Oh, they were shallow scows, probably not to exceed three feet and a half loaded.

Q. And they would go anywhere then that your tug would go?

A. Yes, sir.

Mr. Fryberger: What did that tug draw?

Witness: About six and a half feet.

Q. That was, you say, six and a half feet loaded down with wood?

A. Yes, sir.

Q. Now, is that the first navigating you did on these waters with a boat other than sail boat?

A. Yes, sir.

Q. And you navigated that boat part of the season of 1868?

A. Yes, sir.

Q. What boat did you next use in navigating these waters?

A. Let me see. I was pilot several trips on a boat owned by John Schutte.

Q. When was that?

A. I think it was in the spring of 1870. Now let me see—hold on. If I remember right it was 1869. I would not be sure.

Q. Do you remember the name of the boat, Mr. Merritt?

A. I was just trying to remember the name. I can't remember the name just now, I can't just recall it.

Q. How long did you run on that boat?

A. Oh, I just went up as accommodation to show the captain the route up to Fond du Lac.

Q. And did you go north of Big Island or south of Big Island?

141 A. I went south of Big Island.

Q. Now that was in 1869, you think?

A. I think it was in 1869.

Q. Did you make more than one trip?

A. I think I went three or four times; I think four times.

Q. Now is that all the navigating you did in 1869?

A. Well, no; I had a sail scow. Let me see. I had a sail scow—yes, I had a sail scow when I was delivering goods up and down the



bay and to Duluth from Oneota and from Connor's Point up to the bay.

Q. In 1869?

A. Yes, sir.

Q. How long did you operate that boat?

A. Well, we run that practically all summer.

Q. How much water did it draw?

A. Oh, she did not draw hardly any. She drew about thirty-six inches, about three feet, without the center-board. She had a center-board.

Q. And what other boat did you operate or sail on along about that time?

A. In the spring of 1870 we launched a scow schooner, called the Chaska, of 50 tons.

Q. And did you operate that?

A. Yes, sir.

Q. Where?

A. We carried lumber from Oneota down to Portage Lake, made several trips there, and also traded with merchandise from Duluth down, as a trading boat.

Q. As what?

A. As a trader.

Q. How long did you operate that boat?

A. We operated it until the 28th of August—27th of August, 1871.

142 Q. And what office did you perform?

A. I was master.

Q. And how much water did it draw?

A. She drew about five feet and a half, loaded.

Q. You could go most anywhere on these waters with that boat, then?

A. Yes, sir.

Q. Now what other boat did you operate on these waters?

A. Well, I will have to go back before now. In 1863—I think it was 1863, yes, or 1864, I shipped before the mast on the schooner Pierpont.

Q. Who owned the Pierpont?

A. I think H. M. Payton owned a third, and R. G. Coburn and Edmund F. Ingalls—Ed Ingalls—the other third.

Q. How long did you run on that boat?

A. I ran the summer of 1864 and the summer of 1865 and part of 1866, the latter part of 1866, on her, before the mast.

Q. What did you do principally with her?

A. Carried lumber between the head of the lakes and the copper mines below, Eagle River, Eagle Harbor, and Portage Lake. We used to have to go around the point before the canal was built. Also took one trip in 1866 with a load of iron ore from Marquette to Cleveland.

Q. Where did you get your lumber principally?

A. We got it in three different places; at this place called Milford, generally, first, and quite often at Oneota; we would start and load

there and finish out at the end of Connor's Point, at a place called  
Payton's Pool, Payton & Kimball's mill, where the coal dock  
143 is now.

Q. Then the three places were: Milford, Oneota, and Connor's Point?

A. Yes, sir.

Q. Are those all the places you hauled lumber from?

A. Yes, sir.

Q. And you took that lumber down the south shore?

A. Yes, sir.

Q. How much water did that boat draw?

A. She drew nine feet when she was loaded.

Q. And you did not load her up the river, full?

A. Not all, no, sir; we finished out at Connor's Point.

Q. What did she ordinarily draw as you came down with your load from up the river?

A. Well, we used to come down with about seven feet and a half.

Q. Could you have gotten down with any bigger load on?

A. Well, no, not very well. As a general thing we used to tow her at night with yawl boats; there were no steamboats here and no tugs, and we could not drag on the bottom when towing with a yawl-boat, and when we got down to Connor's Point there was lots of water in the main channel down there, you know. So, we might have taken eight feet if we had a tug or anything up, you know.

Q. Now what other boat did you operate on these waters?

A. With my brother-in-law, Thomas Sanderlands, we bought the tug John Martin, from Houghton, and I was master of her.

Q. When?

A. Well, let me see. I would have to kind of guess about  
144 that. About thirty-seven years ago, I think; it might possibly be thirty-eight years ago.

Q. That you bought it, you mean?

A. Yes.

Q. And how long did you have it?

A. I had it about two years and a half; I will say about three years I guess.

Q. And what did you do with it?

A. I was in the general towing business, of logs and schooners and in the general tug business.

Q. In the tug business—do you mean towing other boats?

A. Yes, and logs; mostly in logs from up the river and from Lefthand and the Nemadji to the different mills in St. Louis Bay and here.

Q. You went up the Nemadji River with your boat?

A. Yes, sir, used to go up there. Not very far though.

Q. Towed logs out of the Nemadji River?

A. Yes, sir. There was a boom there, a boom company.

Q. And where did you do your principal towing of logs then?

A. Well, I used to tow from down the lakes here, as far as Split Rock and Agate Bay or where Two Harbors is now, and then from up the bay, from up the St. Louis Bay, and mostly from Lefthand;

and also from the south shore, from the Brule, and from one or two other points; I forget the river there now.

Q. What was the destination of these logs?

A. Practically all of them in St. Louis Bay; some of them went to this side of Rice's Point, but mostly on the other side and over to Connor's Point.

Q. By "this side" you mean Oneota?

A. Yes, sir.

145 Q. The destination, then, of all of them was Oneota and Connor's Point?

A. Yes, Connor's Point; that is, in Howard's Pocket.

Q. Yes.

A. And Rice's Point on this side.

Q. That is Payton's mill?

A. Payton's mill, yes.

Q. Now how much water did that boat draw?

A. It drew seven feet.

Q. And where did you get logs from up the river, the St. Louis?

A. Let me see. I towed some logs from right where New Duluth is, or where New Duluth is now, the John Smith place, and then I towed some from a boom they had across the St. Louis River above the island, above the Big Island; there was a boom there, a company, and I towed some logs from there.

Q. At what place was that boom, Mr. Merritt?

A. That boom was above where the river divides and comes on the west side of the island and on the south side of the Big Island.

Q. About the vicinity of Spirit Lake?

A. Yes, above where you go into Spirit Lake; yes.

Q. Above where you enter Spirit Lake from the south, you mean?

A. Yes, above where you enter Spirit Lake going up the river.

Q. Yes. Now what other places up the river did you get logs?

A. Well, I towed from the Pokegama Bay, from what is called Kimball's Bay, or Kimball's slough, or what it is over there near the park.

Q. That is the first inlet south of Pokegama?

A. Yes, east of Pokegama.

Q. East of Pokegama?

A. Yes.

146 Q. Better east.

A. We used to call it Filber's slough or bay then. I see it is Kimball's now.

Q. Then your towing of logs up the river was from New Duluth, at the boom near Spirit Lake—

A. Yes.

Q. —and from Pokegama Bay, and some from Kimball Bay?

A. Yes, sir.

Q. Are those all the places you got logs from?

A. Well, it is all that I remember now. How many times I went to each place I could not remember, but I know we took logs there.

Q. In towing logs down from New Duluth, which side of Big Island did you go?

A. That raft that I took from New Duluth I took down on the south side of the island—a small raft I had there.

Q. And those logs that you took down Spirit Lake, which side of the island did you tow those down?

A. From Spirit Lake?

Q. Yes.

A. I went down on the north side.

Q. On the north side?

A. Yes, sir.

Q. How many trips did you make from Spirit Lake down?

A. I remember of only one trip from Spirit Lake down.

Q. And you went on the north side of Big Island?

A. Yes, sir.

Q. With those logs?

A. Yes, sir.

Q. Your principal navigating was the channel south of Big Island, wasn't it?

A. Yes, sir.

Q. That was the nearer channel in going up the river, wasn't it?

A. Yes, sir.

Q. And that was the reason you took it, wasn't it?

147 A. That is the reason we took it, sure.

Q. Do you know the difference in distance between the two channels up the river?

A. I don't know. It could be measured on the chart there.

Q. There is a substantial difference, though, isn't there, in distance?

A. Yes, there is some difference.

Q. The north channel being the longer?

A. The longer channel; yes, sir.

Q. Now did you operate any other boats on these waters in question?

A. I think that is all.

Q. What was the nature of that Schutte boat? I would like to have a description of it.

A. The Schutte boat?

Q. Yes.

A. She was really an excursion boat running between Duluth, and used to come up here to about where the canal is now—that was before the canal was cut, and then she would go up to Fond du Lac and make the round trip, round again. Of course there was no West Superior then, you know.

Q. What was her size?

A. Oh, I don't know. I think she drew six feet of water, something like that.

Q. About six feet?

A. Yes.

Q. And you piloted it south of the island?

A. Yes, sir.

Q. Now are those all the boats, Mr. Merritt, that you can recall that you have operated on these waters, the ones you have mentioned?

A. I think so; I think so.

Q. You spoke of a tug that you used in carrying supplies  
148 for the St. Paul & Duluth road; did you?

A. Oh, that was a sail scow.

Q. That was a sail scow?

A. Yes. It had sails rigged in it. That was the one that drew  
about 36 inches of water.

Q. That was the lake draught boat?

A. Yes.

Q. And you landed with that scow anywhere?

A. Anywhere, yes.

Q. Mr. Merritt, you testified in regard to the waters of the St.  
Louis River in what is known as the Whiteside case, didn't you?

A. I think I did. I don't know. I presume I did.

Q. To refresh your memory, that was a case involving the title  
to a little island north of Big Island, called Palace Island now, I  
guess. Do you remember of testifying in that case?

A. Yes, sir.

Q. What other boats did you see navigating the waters of the St.  
Louis River and bay at the time you were operating it? Now name  
the principal boats that you saw operating on that.

A. Well, there was the side-wheel boat called the Kit Carson.

Q. Who operated that?

A. I don't know who was the captain of her. And then there  
was the steamer Seneca; she was a propeller.

Q. Do you know how much water the Kit Carson drew?

A. Oh, she was a shallow-draught, side-wheeler.

Q. You say shallow-draught; what do you mean by that Mr.  
Merritt? About how much?

A. Oh, I mean she probably did not draw over two or three  
feet of water; three feet, or possibly four.

149 Q. Now the Seneca, what kind of a boat was that?

A. She drew, as nearly as I can remember, about seven  
feet.

Q. Who operated the Seneca?

A. There was a man by the name of—one of the owners was a  
man by the name of—may I ask Mr. Howard the name of a clerk?

Q. Yes.

Witness: Who was Coburn's clerk there? You remember the  
fellow that used to be bookkeeper there in the early days.

Mr. Benjamin Howard: Captain John Wallin?

Witness: No, I don't mean that. I mean the storekeeper or  
clerk there, old R. G. Coburn's store.

Mr. Benjamin Howard: Holcomb is the name.

Witness: Holcomb. Well, this is a brother to George Holcomb.  
He was interested in the Seneca. I know, and who the other was  
I do not know.

Q. Do you know what channel the Seneca took in going up the  
river?

A. Yes, sir.

Q. How often did you see it?

A. She used to make daily trips up to Fond du Lac.

Q. Did you ever go up on her?

A. No, I never went on her. No. We could see her there.

Q. Did she go the north channel or the south channel?

A. She took the south channel when I saw her.

Q. The south channel?

A. Yes, sir.

Q. The south channel was generally used by boats that were operated then because it was the nearest channel, wasn't it?

150 A. Yes, sir.

Q. And what other boats did you see operating on the St. Louis River?

A. Oh, there was the George Frost.

Q. What kind of a boat was that?

A. Well, she drew about the same amount of water.

Q. About nine feet, you mean?

A. No, about seven feet I should say.

Q. About seven. And which channel did she operate in?

A. She went the south channel.

Q. By "south channel" you mean south of Big Island?

A. Yes, sir.

Q. Now what other boats did you see operate on the St. Louis River?

A. Well, I have been up on boats since that, within the last twenty-five years, different boats; I don't remember the name of the boats particularly. Been up several times on old settlers' excursions. We always went on that side.

Q. On the south side?

A. Yes, sir. The boats I don't remember, the names of them, in particular.

Q. Your principal travel then was on the south side of Big Island?

A. Yes, sir.

Q. Now can you recall any other boats that you saw operating on the waters of St. Louis River and bay prior to 1890, we will say?

A. 1890? Well, there was the Williams and Upham boats.

Q. What kind of boats were those?

A. They were tugs.

Q. What did they do?

A. They were in towing business.

Q. Did they go up the St. Louis River frequently?

151 A. No, not very often.

Q. How much water did they draw, do you know?

A. Oh, they drew about seven feet. That was about the draught of those tugs. And then there was the Nellie Cotton, owned by Mr. Payton, or Captain Jeffry, rather.

Q. When did that operate?

A. That operated about that time.

Q. About what time now? Fix the date as nearly as you can.

A. Oh, about thirty-five years ago they were in full swing.

Q. And how long did they operate?



A. Well, she was sold here a few years ago. She operated until Mr. Payton quit the mill business over here on Connor's Point. And then there was the tug Amethyst which came here in 1869.

Q. And who operated that?

A. Martin Wheeler was captain; R. G. Coburn and Henry Wheeler were the owners.

Q. And what kind of a tug was that?

A. She drew about six or seven feet of water.

Q. Did she operate up St. Louis River much?

A. Yes, sir, quite often.

Q. What did she do?

A. She was in the general towing business, logs and scows.

Q. Do you know which channel she used?

A. Well, they used the south channel.

Q. Used the south channel?

A. Yes, used the south channel.

Q. Now what other boats do you recall that operated on the St. Louis River prior to 1890?

A. Well, I don't remember any others particularly.

The Commissioner: Mr. Merritt, do you remember a boat  
152 by the name of Stewart?

Witness: Stewart, yes. But she did not operate much up there. I guess she has been up there several times, but she did not run as a general thing up there.

Q. What kind of a boat was the Stewart?

A. The Stewart was a ferry. She was brought up here as a ferry boat between Superior and Duluth, and then she used to run in the lake mostly, between here and Agate Bay and so on.

Q. You say she did not operate the St. Louis very much?

A. Not that I know of, no.

Q. Do you know how much water she drew?

A. Well, I think she drew about six feet.

Q. Now, do you think you have named all the boats that you can recall that operated on the waters here at the head of the lakes prior to 1890?

A. Why, yes, all that I remember now.

Q. Then they were all comparatively light draught boats, weren't they, Mr. Merritt?

A. Yes, sir.

Q. Mr. Merritt, you were shown what purported to be a Meade map, Minnesota Exhibit 1. I will show you a map here that has not been introduced in evidence, and ask you if you know what that is. (Placing a map before the witness.)

A. That is a Meade map.

Q. The map that you were shown when you were being examined in chief had some red lines on it, didn't it?

A. Yes.

Q. This map has not those red lines on it, has it?

A. No.

Q. Now, you are familiar with this Meade map are you  
153 not, Mr. Merritt, generally speaking?

A. Yes, sir, I am.

Q. And so far as you know, are the soundings that are given on the Meade map correct?

A. Well, they should be.

Q. So far as you know are they correct?

A. Yes, sir.

Q. You do not have any reason to think that they are incorrect, do you?

A. No, sir, not the least.

Q. And you say you were towing up above Big Island, on your operations up above Big Island were all through the south channel, except one raft of logs that was brought down from Spirit Lake and the operating that you did from Milford?

A. Yes.

Q. Is that right?

A. Yes.

Q. Now, when you went to Milford you went up a channel that we will mark; you may put a pencil mark on there, H if you will.

A. Yes, it is there.

Q. You just put a pencil mark on there to indicate that channel, will you?

Attorney-General Owen: Have you marked that map?

Mr. Gard: No, but I will.

Q. Will you put that on with red ink, so we can see it?

A. Mark it H?

Q. Yes, you can mark it H.

A. Right there.

(The witness marks as requested.)

Q. That is all right. Now, you have marked the channel on this map H, haven't you?

A. Yes, sir.

Mr. Gard: I will ask the reporter to identify this map as  
154 Wisconsin Exhibit 1.

(A map of 1863, made from surveys in 1861, was marked Wisconsin Exhibit 1.)

Q. Now in going to Milford, Mr. Merritt, you went through the channel you have marked H in red ink on Wisconsin Exhibit 1, did you?

A. Yes, sir.

Q. That was the deepest water in that locality, wasn't it?

A. Yes, sir, to Milford.

Q. When you came down with your raft of logs from Spirit Lake, can you indicate the course you took, on this map?

A. Yes, I can. Take it above Milford a little ways, above where the dock was put there, I did not come down this main channel—

Q. By the main channel do you mean H?

A. I left it here somewhere. (Indicating.)

Q. By "here" you mean at a point marked—what is that?

A. There is a shallow channel in there. Do you see 8 feet marked in there? Look at it close and see if you can see it.

(Mr. Gard examines the map with a magnifying glass.)

Q. When you say you left the main channel, do you mean that you left the main channel near where the word "clay" is printed on this Wisconsin Exhibit 1?

A. Let me see. (Examining the map very closely.)

Mr. Hudson: Better locate it as the first one west of H, because there are other words "clay."

Mr. Fryberger: When he finally locates it we will put it in red, so it will be on the map.

155 A. Well, I left close to here. (Indicating.)

Q. That is where the word "clay" is?

A. Well, it is pretty close there, yes.

Q. That is, the word "clay" westerly of the red letter "H?"

A. Yes, close to that.

Q. And you left the main channel at that point?

A. I left the main channel there, and came over, straight over.

Q. Now that was when you were bringing the raft of logs down from Spirit Lake?

A. Yes.

Q. And your boat drew how much water?

A. My boat drew about seven feet.

Q. And you took the shortest line, practically the shortest line, from there down to Grassy Point, didn't you?

A. Yes.

Q. The end of Grassy Point.

A. Well, we didn't go—you see the river crooks there on what they call the Devil's Elbow.

Q. Yes.

A. Close to where the boat house is on the Wisconsin side, in the park there.

Q. You took the shortest course then down to what was then called the Devil's Elbow?

A. Yes.

Q. Now you call the Devil's Elbow, do you, that turn just above Grassy Point?

A. Yes, around there.

Q. Some other people call Devil's Elbow the turn up in the south channel, southerly of Big Island, don't they?

A. Yes; some have got it up there, but that was the original Devil's Elbow, because it was under water, kind of hid there, you know, and we caught the Devil's Elbow without any mark on  
156 each side; deep water there and shallow water on each side.

(A recess was here taken until two o'clock P. M., at which time the witness was recalled, and his cross-examination resumed as follows:)

By Mr. Gard:

Q. Now, Mr. Merritt, at the end of Grassy Point, between Grassy Point and the Wisconsin shore, there appears to be represented on the Meade map, Wisconsin Exhibit 1, a white channel there, with soundings in it; isn't there?

A. Yes, sir.

Q. You knew of that channel, did you?

A. Yes, sir.

Q. That is a very deep and well defined channel around Grassy Point, isn't it?

A. Yes, sir.

Q. Do you remember the depth of it?

A. Well, it averages I think over twenty feet, something like twenty; eighteen or twenty feet.

Q. Can you look at the map and follow the figures the soundings at that point?

A. Well, I don't know as I can.

Q. You regard that white channel there, in which are marked the soundings, many of them 31 there, opposite Grassy Point, as the main channel?

A. Sure.

Mr. Fryberger: I would like to ask the counsel, and let the record appear, whether he means that question to apply to both sides of Grassy Point, or simply down towards the bay.

Mr. Gard: I am simply asking him opposite Grassy Point.

Mr. Fryberger: Down towards the lower bay?

157 Mr. Gard: I am not asking him down below anything.

A. Sure.

Q. That was the main channel, wasn't it?

A. That was the main channel, division, between the two bays there.

Q. Now you can follow that main channel up the river, can't you?

A. Yes, sir.

Q. Now you take your pencil and follow that main channel up the river.

A. Well, it shows on there, the figures.

Q. You follow that main channel up the river now.

A. And the depth of water.

Q. You can just follow the main channel now. That is up towards Milford?

A. Yes; that is where one of the channels went.

Q. Now that is the main channel, isn't it?

A. That is the main channel up to Milford, yes.

Q. Now, you have pointed out the channel, and that is marked on this map as H; haven't you?

A. Yes, sir.

Q. That is on Wisconsin Exhibit 1?

A. Exhibit 1, is it?

Q. Yes, Exhibit 1.

A. Yes.

Q. Now you give the soundings that appear on that map, in that main channel?

A. Well, I would have to change my glasses. They are marked there pretty plain.

Q. You can see they are quite deep soundings?

A. Yes.

Q. And that was quite a deep channel when you knew it?

A. Yes, sir.

Q. Now, Mr. Merritt, you spoke of a sand bar up here. Can you—

A. If you mark on that map there you will see 8 feet.

Q. Now you go by the map to locate that sand bar, don't you?

A. Sure. There is an island here.

Q. You refer to the figure 8 that occurs right above the word "muddy," westerly of the letter H, don't you?

A. Yes, sir; it is right in the channel towards Milford.

Q. Now, Mr. Merritt, I will ask you if you cannot read that map and see that the main channel comes up there and the soundings are 20, 24, 15—what is that?

A. 8 there.

Q. That is 8 outside.

Mr. Bailey: 8 on either side.

Q. 8 on either side?

A. Yes.

Q. And then 14. You see 24 there, don't you?

A. I want my other glasses. (Changing glasses.) I know there was a bar across that, and deeper water above and below, when I used to run there, and I guess Meade says it too, doesn't he?

Q. Now that is what we are getting at, Mr. Merritt.

A. Now let me see. (Examining map with the magnifying glass.) I see 24. What is that—8? What are those figures there? I can't make them out.

(Mr. Gard looks at map through magnifying glass.)

Q. Now, Mr. Merritt, see if you cannot follow that channel there. It gets shallower there, but see if 14 feet is the shallowest it gets except on the sides it is 8.

A. Well, there is a bar there, showing 8 feet there.

159 Q. That is up the side of the channel, isn't it?

A. Well, that is all the water shows there in the channel; all the other marks are right there.

Q. Now you read it and assume that that 8 carries you clear across that channel, don't you?

A. Yes. That is deep water.

Q. Now don't you see that there is a lighter mark between those 8's, a lighter shading?

A. Well, I don't know. 24, and then you see it is shaded dark

there, between here and there, there is that shallow place you see; then it shows the light place in the deep channel.

Q. That light space is 27, isn't it?

A. Yes, that is deep water there; and then there is 8.

Q. The 8 is different color from the 14, isn't it?

A. Sure.

Q. Doesn't the 14 carry across there?

A. No.

Q. You are sure of that?

A. Yes.

Q. That is not the way you read it?

A. That is not the way I read it by the boat either. There used to be a shallow place there.

Q. How many times did you try to go over it?

A. Quite a number of times.

Q. How many times?

A. I could not tell. I have been on the lake there in boats, you know, when I had my own tug, over two years.

Q. You traveled the south channel most of the time?

A. I traveled the south channel most of the time, yes.

160 Q. How did it come you had occasion to try to get over that bar?

A. Well, whenever I had any work to do up there, towing some logs from the Marshall landing, used to go through there.

Q. How many times did you tow logs from there?

A. Twice, that is all.

Q. Twice?

A. Yes.

Q. Did you try to get over that bar?

A. Well, I could get over the bar all right, I could get over the bar with my own boat because it only drew seven feet of water.

Q. That bar did not hinder you then, did it?

A. No, it did not hinder me then, not when I got the right place.

Q. But you had trouble in making the right place, didn't you?

A. Well, I used to avoid that by coming down through this cut-off here.

Q. Is that the reason you came down around there, because it was hard to make?

A. The reason I did not go around this channel here was because in towing logs you have to tow them a considerable long line, and you see around that bend the logs would scrap on the rushes and the bank, and I could come right straight through here and escape that.

Q. By "that channel" you mean the channel there that is marked H?

A. Yes.

Q. And you say the reason you did not come down there with logs was that it is rounding?

A. Yes, rounding.

Q. And your logs extended quite far back from your boat?



A. Yes.

161 Q. And they would scrape the edge of the channel?

A. Yes. Suppose I had a million of logs; that would be practically three acres of stuff behind me.

Q. Extending back how far?

A. Extending a long ways.

Q. That is the reason you did not go around that main channel?

A. Yes, that is the reason I did not go there with the logs. It was a shorter cut across.

Q. You took the shortest cut to the——

A. To the Grassy point, to the Devil's Elbow.

Q. Yes, to the Devil's Elbow. Mr. Merritt, how far is it from the natural entry between Wisconsin and Minnesota point to the rapids of St. Louis River?

A. It is about 22 miles.

Q. And how far is it to the trading post that was called Fond du Lac?

A. Well, it is close to 20 miles.

Q. What do you estimate the distance from? How do you get that?

A. Well, I measured the time going up with the tug; that is the first time I measured it, and I have tried to measure it with calipers on the Meade map.

Q. Is that by way of the main channel?

A. No.

Q. By the cut-off?

A. That is by the cut-off.

Q. The channel south of Big Island is called the cut-off, isn't it?

A. Yes.

Q. That has usually been known as the cut-off, hasn't it?

A. Yes, a short-cut.

Q. The people who have boats that can navigate that channel usually take that cut-off to save the distance, don't they?

162 A. Yes; more particularly before the government main channel was dug up; I mean in the other years, in the years back; took that to save time and trouble.

Q. Mr. Merritt, I believe you said you testified in the Whiteside case?

A. Yes. I don't know whether the Whiteside case or not; I testified something about an island up there; I don't know whether Mr. Whiteside was interested or not.

Q. Yes. You know that there has always been a current down the St. Louis Bay and the Superior Bay and the St. Louis River?

A. Sure, there has always been a current and a tide.

Q. Yes. By "tide" you mean the raising of the water from the wind?

A. Yes.

Q. The northeast wind?

A. Yes, from the lake; there is a tide in the lake; there always used to be, anyway, from 6 to 9 inches.

Q. Do you understand that is a tide from the tidal causes, I mean

by the effect of the sun and moon, or do you mean that it is a tide from the effect of the wind?

A. Well, there is a tide even in still weather. The government bureau shows that. A tide from six to nine inches quite often.

Q. Do you understand that to be from the tidal causes? By tidal causes I mean the influence of the sun and the moon.

A. Well, I don't know anything about it. I know there is a tide, that is all.

Q. You don't have——

A. I don't have an idea what causes it.

Q. You never investigated that?

A. No.

Q. But you do know that there is a raising of the water in the lake at this end of the lake, a raising and falling of the water periodically, and that that extends up the river some distance?

163 A. Yes, sir.

Q. It extends up to Fond du Lac you testified?

A. Yes, I testified, but that was really caused by a northeaster, or I have seen the tide rise in still weather, but a northeaster came right afterwards.

Q. That tide simply has a tendency to back the water up and still the current, doesn't it?

A. Yes, sir.

Q. Sometimes the current is the other way?

A. Yes.

Q. But the main current is down the river?

A. Sure.

Q. And that is very marked, isn't it,—the current down the river?

A. Yes, it is; and the current down the south shore too, follows it down the south shore in Lake Superior.

Q. The current follows the main channel down the river, doesn't it, usually?

A. Yes, sir, and also the bay too.

Q. Yes, and in the bay?

A. Yes, and in the bay.

Q. It follows the main channel out through Superior Bay, doesn't it?

A. Yes, sir.

Q. And there is a well-defined channel out through Superior Bay, isn't there?

A. Yes, sir.

Q. And always has been?

A. Always has been.

Q. And that channel comes down through Grassy Point into St. Louis Bay a distance, doesn't it?

A. Yes, sir.

Q. And then you understand that it continues through St. Louis Bay, or not?

A. The channel?

164 Q. Yes.

A. It flattens out there.

Q. And then picks up over near the Minnesota shore, above where the Northern Pacific bridge now is, does it?

A. Yes, sir.

Q. And that is a well-defined channel over there, isn't it?

A. Yes, sir.

Q. At the Minnesota side of the St. Louis Bay, where the Northern Pacific bridge now is?

A. Yes.

Q. Isn't that right?

A. That is right.

Q. Now, Mr. Merritt, you testified that the characteristic of a lake as distinguished from a river was the widening, didn't you?

A. Yes, sir.

Q. You consider that the principal characteristic that distinguishes a lake from a river?

A. Why, yes, I should say so; that is, it is like Lake Peppin; the widening of the river makes Lake Peppin; and the widening of the St. Louis River from the island down makes upper St. Louis Bay, and so on, St. Louis bay, and Superior bay.

Q. Now, don't you think a well-defined channel and current has a good deal to do with determining the river?

A. Why, in the river it does, but in the bay I do not see why it should be. There has always got to be a deeper place in a bay, unless you make it exactly flat, but when you come to navigate, you navigate, according to your vessel, in the deepest place in the bay or lake.

Q. You understand the channel out there near Minnesota Point, just inside the natural entry, to have been made by scouring  
165 of the current, don't you?

A. Why, I suppose so. That is deep water right close to Minnesota Point and is shallow over at Superior.

Q. Yes; and you understand that to have been made by the scouring of the current?

A. Well, I could not tell that in particular. The left-hand comes in over there. The current used to make a bar over at the end of the lake, the old Superior entry; when we had high water we used to get a bar there.

Q. Yes. That is right in between Minnesota and Wisconsin Points, isn't it?

A. Yes, out in the lake.

Q. That sometimes was not more than 8 feet across there; was it?

A. Yes, quite often. We had a main channel where the old lighthouse is, we used to have to come in there and then go south-east; there was a bar outside.

Q. You have that natural entrance marked as mouth of the St. Louis River on a number of maps, haven't you?

A. Why, the entry of Superior Bay, I don't know whether it is the mouth of St. Louis.

Q. Have you not seen it marked on several maps as the mouth of the St. Louis River?

A. No, I have not. It may be on Meade's map for all I know. Used to also call it the Superior entry.

Q. Yes; that is to distinguish it from the Duluth entry, isn't it?

A. Well, that is Duluth canal.

Q. Yes, you call that the Duluth entry, don't you?

166 A. Yes. But we called it Superior entry when I was a boy, when we came in with the steamer Manhattan.

Q. Didn't you say you went up the St. Louis River when you came in?

A. No, went to Superior Bay and then to St. Louis Bay.

Q. When you spoke of regarding that line in the center of the map, or that line in the center of the bay as the state line, you based that on your belief that Superior Bay and St. Louis Bay is not a part of St. Louis River, didn't you, but a part of Lake Superior?

A. Well, no, I can't say as I did. I call them St. Louis Bay and Superior Bay.

Q. And you based that being the boundary on the fact that they are a bay, a part of the lake and not a part of the river, didn't you?

A. Why, sure.

Q. Yes.

A. Sure.

Q. And you regarded them as a bay and as part of the lake instead of a part of the St. Louis River?

A. We did not call it St. Louis River, no; we called it the bay, Superior Bay, and the upper and lower St. Louis Bay.

Q. Yes. Now, Mr. Merritt, you spoke of the Lefthand River. What do you mean by the Lefthand River?

A. Well, that is to the lefthand. The old Jesuits came in there and gave it the name Lefthand; that is the river to the left, named Nemadji.

Q. Nemadji means lefthand?

A. I don't know.

Q. It used to be called Nemadji or Lefthand River?

A. Yes.

167 Q. Now you heard that Nemadji means lefthand?

A. Well, I suppose it does, still I never saw the authority. Does it mean lefthand?

Q. Well, I understand it does.

A. But I am cross-examining you.

Q. Yes, I understand it does, Mr. Merritt.

A. Well, all right.

Q. And you spoke of it as being the Lefthand River?

A. Yes, sir; sure.

Q. Now, Mr. Merritt, when we have a lefthand river we usually have a righthand river too, don't we?

A. Sure.

Q. Where is the righthand river?

A. Up above the island there.

Q. Do you think that the old settlers, when they named that Nemadji River as distinguished from some other river which was

the righthand river, considered that the St. Louis River did not begin right there at the entry?

A. Why, I think so. I think they did not, or else they would not have named St. Louis Bay after St. Louis.

Q. That is the reason you think so?

A. Yes, I think so. Superior Bay.

Q. Doesn't it occur to you where there is a lefthand river there must be a righthand river, somewhere right there, to distinguish the one from the other?

A. Why, it is practically right there, only just a little ways up the two bays, the three bays there.

168 Q. Where you fix the mouth of the river is several miles, isn't it?

A. Sure.

Q. How many miles?

A. Well, it is seven miles—well, it must be about—seven and five are twelve—twelve miles anyhow.

Q. Did you notice, Mr. Merritt, that there are two sections to the Bayfield map, one of them called survey of Lake Superior; isn't it?

A. Yes, sure.

Q. And the other one is called what?

A. I never saw this other one, you know.

Q. Well, what is it called? You have it before you. It is called Track survey of the River St. Louis, isn't it?

A. Yes.

Q. By this man Holland, under the direction of Bayfield; isn't it?

A. That is what it says.

Q. Now, that shows the water out to the natural entry there, doesn't it?

A. Sure.

Q. Now, don't you understand that Mr. Bayfield considered that water a part of St. Louis River?

Mr. Bailey: That is objected to as to what he understood Mr. Bayfield considered. Mr. Bayfield made the larger map that is marked Lake, and it takes in all now that you are claiming as a river.

Mr. Gard: I am cross-examining this witness now. He doesn't need you to help him out.

Witness: I don't want him to help me out.

Mr. Bailey: That was not a proper question.

Witness: This Superior Bay and St. Louis Bay here was a bay before this man made the survey.

Q. What you call a bay, you mean?

A. Yes.

169 Q. Do you know of anybody calling them bays before that time?

A. I think if you will look over John Cass' report you will find he went to Fond du Lac—when was this survey made?

Q. In 1823 and 1825, I think.

A. Cass was there in 1822.

Q. Now, Mr. Merritt, don't you often find that a river is given a local name of something like a bay and still it remains a river?

A. Well, I don't know of that.

Q. Do you consider that the Mississippi River does not continue through Lake Peppin? You spoke of Lake Peppin.

A. Yes.

Q. It is your understanding that the Mississippi does not continue through Lake Peppin?

A. That is not the end of the Mississippi, sure.

Q. Is it your understanding, though, that the Mississippi River does continue through there, or not, or that it loses its character or its identity?

A. Its identity.

Q. Yes. And there is no Mississippi River through Lake Peppin? Now what is your understanding?

A. Well, I would say that it was not the Mississippi through Lake Peppin.

Q. That is your understanding?

A. It enters into Lake Peppin from the north and empties out of Lake Peppin at the south—the same river.

Q. And on that same theory you consider that Superior Bay and St. Louis Bay is not a part of St. Louis River?

170 A. Yes, I should say so. What is that marked? Fond du Lac Bay?

Q. Lake Superior.

A. On the old Bayfield map it is marked Fond du Lac.

Q. Yes. What does that mean?

A. Well, the head of the lake.

Q. Don't you conclude that Mr. Bayfield considered the head of the lake just outside of Minnesota Point where he put Fond du Lac?

A. Well, in his——

Q. Now wait. Answer the question.

Mr. Bailey: Let him answer.

Q. Answer the question.

A. What is the question?

Mr. Gard: Read the question, Mr. Reporter.

(The question was read by the reporter.)

A. I consider he did, yes, sure; Fond du Lac, that is outside of Minnesota Point.

Q. Yes. And you think he must have considered that the head of the lake, don't you?

A. Yes, I think he did, when he entered into Superior Bay.

Q. Yes.

A. Sure.

171 Q. You considered this, then, not an authentic copy of Bayfield map?

A. Well, on the original Bayfield map it was marked "West of the Apostle Islands Bay of Fond du Lac."

Q. Where is that map?

A. In London; I understand they have a copy of it in London and



I tried to get a copy to keep as a relic and they have them on file in London but I couldn't reach London.

Q. Don't you understand that this is an authentic copy of the Bayfield map?

A. Why, as far as that is concerned in the original Bayfield map they had the Bay of Fond du Lac——

Q. How do you know that you saw the original Bayfield map?

A. Well, I saw it in 1863, '64, on board the old schooner Pierpont, Captain Edwards showed me, and I saw the name of Bayfield marked on it. It looked to be a map which had been used ten or twelve years then and there was no question in my mind that it was the original Bayfield map.

Q. You mean a copy of the original map?

A. No. One of the original Bayfield maps.

Q. You don't mean it was one that Mr. Bayfield made himself?

A. Yes, sir.

Q. You mean it was from engraving?

A. Yes, sir.

Q. It was an engraved map?

A. Sure; just the same as that Meade map is.

Q. Do you undertake to state positively that the whole end of Lake Superior beyond the Apostle Islands was marked "Fond du Lac Bay"?

A. Fond du Lac Bay.

Q. Do you undertake to make that as a positive statement?

172 A. Positive statement.

Q. And you never saw that map but once?

A. I sailed with it for a number of years.

Q. When was that?

A. From '64.

Q. About what time?

A. The last time I was on the old schooner was in '66—I quit her the spring of '68 and went to run the tug Agate.

Q. Were you using the Bayfield map all the time.

A. Sure. There wasn't any other map to use.

Q. When did the Meade map come out?

A. The Meade map came out in '66. We didn't have it in '66. I didn't get the Meade map until about '69 was the first Meade map I got.

Q. Did you sail by the Meade map after that?

A. Sure.

Q. Now you are shown Minnesota's Exhibit 13. You testified that that was a generally recognized and correct map, didn't you?

A. Yes, sir.

Q. Do you see that the mouth of St. Louis River is marked at the entry between Minnesota Point and Wisconsin Point on that map?

A. Yes, sir, I see that.

Q. It couldn't have been generally accepted, then, that that wasn't a part of the St. Louis River down to the entry, was it?

A. A man would be called crazy to talk about the Superior Bay being the St. Louis River.

Q. That is the way you look at it?

A. Sure.

Q. You don't regard that channel that you spoke of as having any tendency to make it a river?

173 A. Except the deeper part of the bay, the Superior Bay.

Q. That is you do, you do think it has a tendency to make it part of the river in the deeper part of the bay?

A. No, I didn't say that, but the deeper part of the bay—

Q. Do you or do you not consider that that channel that you spoke of is an evidence of a river?

A. I don't see how it could be river in a bay.

Q. You don't because it's called a bay, is that it?

A. That is the name of it.

Q. Isn't that the reason you think it can't be a river, because it's called a bay?

A. I don't see where the river comes in there.

Q. You spoke of the channel and you say that you don't find any evidence of a river in that channel?

A. There is a channel in Lake Superior—deeper part of Lake Superior must be a deeper part of the bay.

Q. Do you find a channel in Lake Superior that was made by scouring of the water?

A. Some fellows say it was a glacier but I wasn't there; I don't know.

Q. Do you find a channel in Lake Superior that was made by a scouring of the waters?

A. I am not an expert on scouring.

Q. You did testify that you had no doubt that that channel out near the end of Minnesota Point in St. Louis Bay was made by the scouring of the water, didn't you?

A. No, I didn't. You wanted me to testify to that and I said I didn't know.

Q. Do you know how it could have been made if it wasn't made by the scouring of the water?

A. I am not an expert on that. I know it is deep water  
174 close to Minnesota Point.

Q. And you know that the current runs down there too, don't you?

A. Sure, runs up too.

Q. When the tide comes in?

A. Yes, sir.

Q. But you know there is more water runs out than runs in, don't you?

A. Got to be.

Q. And you know that the general trend of the current is out—that current?

A. Sure it's out. Got to go by that point.

Q. How near up to Oneota did that main channel that you speak of that runs up between Rice's and Connors Point near the Minnesota shore above where the Northern Pacific bridge is now, how near did that run up to Oneota?

A. Well, the deep water that we used to run the vessels from Oneota down ran out, well a straight line from the old Oneota dock, the Erie pier, from the Erie pier to where the Northern Pacific, by Zack Brown's house, would cut off a portion of the Missobe & Northern docks, a straight line between.

Q. The deep water, you mean?

A. Yes, the deep water on that side of the bay.

Q. And Meade's map shows the correct depths of that water, doesn't it, so far as you know?

A. Yes, it shows—

Q. All over the bay?

A. All over the bay showing on the south side a little deeper channel than there is on the north side. That is, you can pick it out on the Meade's map there. It shows you there.

Q. Do you remember when the Northern Pacific bridge was built?

175 A. Yes, sir, I do.

Q. Was there two draws put in that bridge when it was first built?

A. No, no.

Q. Where was the draw put in that bridge when it was first built?

A. Near Rice's Point.

Q. On the Minnesota side?

A. On the Minnesota side, yes.

Q. Where the draw is now on the Minnesota side?

A. Well, seems to me they moved the draw, but I don't know. Pretty close there, yes. Must be close there.

Q. Pretty close?

A. Yes.

Q. Do you know why they put the draw in the Minnesota side and didn't put a draw in at the Wisconsin side?

A. Well, there wasn't anything over in Wisconsin then, any call for a draw over there, and on the Minnesota side they wanted to get to the docks, close in there, and railroad docks, the railroad land they owned up alongside of Rice's point.

Q. You know, don't you, that the Government wouldn't let them bridge the main channel of the St. Louis River without putting a draw in?

A. Sure.

Q. And you know, don't you, that that was considered the main channel of the St. Louis River at the time the Northern Pacific bridge was put in?

A. That was the deep channel of St. Louis Bay.

Q. And that is the reason that they put the draw over there and not on the Wisconsin side, wasn't it?

A. Why, of course that was the reason, because the Government ordered it there.

176 Q. How long did that bridge exist with just one draw?

A. Well, I couldn't tell. I don't just remember. When they come to want to use the Superior side there they got a new draw and then changed that, I guess.

Q. Mr. Merritt, you testified that there was a dock at Millford, didn't you?

A. Yes.

Q. And that you couldn't go in and get the lumber at the dock, as I understood you?

A. No. There was two docks there, one in by the mill and one outside in the deeper water and they used to scow the lumber out the dock.

Q. Did that dock out in deeper water extend to the shore?

A. No, no.

Q. Didn't extend to the shore anywhere?

A. No.

Q. Was just——

A. Just a pier out there.

Q. Just a pier outside and water all around it?

A. Water all around it.

Q. How far out was that from the shore?

A. I don't know exactly how far; it was quite a little ways. The Meade's chart I don't know whether it shows the dock or not but it was practically a quarter of a mile out.

Q. Mr. Merritt, the water of St. Louis is colored, isn't it?

A. Yes, sir, it is what we call tamarack water, muskeg color, except in the winter.

Q. Before the Duluth Canal was cut across Minnesota Point you could see that water extending out into the lake some distance, couldn't you?

A. Oh, yes, you could see it a long ways out, so far as 177 that is concerned when the "Left Hand" was on a boom and the St. Louis River was on a boom.

Q. You could see the current extending out there into the lake there some little distance, couldn't you?

A. Yes, sir.

Q. From the St. Louis and the Left Hand River?

A. Yes.

Q. And the St. Louis River is much larger than the Left Hand River?

A. Well, sometimes the Left Hand gets awful high, you know. It's a larger river.

Q. Very much larger, isn't it?

A. Yes; drains more territory.

Mr. Bailey: Which is, St. Louis?

Mr. Gard: St. Louis.

The Commissioner: What year was the canal dug in Duluth here?

The Witness: '71—'70 started it there.

Q. You spoke of the St. Louis River being narrow above Big Island. Isn't there several widenings of the St. Louis River above Big Island?

A. It goes off, as you come from Fond du Lac this way, there is a lake in there near Fond du Lac, and what they used to call

Andrew Reefer's Bay. That was to the north. And then as you came down this way there was Lord's Bay. That was on the Wisconsin side. And then immediately across from that was Sargent's Lake, and then Mud Lake; I don't know whether they named that on the map there, but that was the name.

Q. Did you consider those waters a part of the St. Louis River or not?

A. We called them bay, Lord's Bay and Andrew Reefer's Bay.

Q. Did you consider them a part of the waters of the St. Louis River or not?

A. They were not the main river. They were set off one side.

Q. Did you consider them a part of the waters of the St. Louis River?

A. Why, no I wouldn't consider them—I would consider them separate bays. Of course, they were from the waters of the St. Louis River, no doubt, of the St. Louis River water, and like Spirit Lake after that, coming through there. There was an outlet below but no inlet.

Q. You didn't consider them a part of the waters of the St. Louis, did you?

A. Part of the waters of the St. Louis River, No.

Q. The Little Pokegama Bay, you don't consider that to be part of the waters of the St. Louis River?

A. No.

Q. And Mud Lake, you don't consider that part of the water of St. Louis River?

A. No. When we get to those we always get out of the river.

Q. You mean you get out of the channel of the river?

A. Channel of the river and out into the bays.

Q. There was a channel of the river that you tried to follow, was there?

A. Yes, sir.

Q. Mr. Merritt, you said Mr. Stuntz told you that he went up the St. Louis River just as far as he could before he started to survey the State line between Minnesota and Wisconsin southerly of the St. Louis River, didn't you?

A. Yes.

Q. He said he wanted to get all the territory he could, or something like that, from Wisconsin?

A. That's what he said in a kind of a joking way. I don't know whether he meant it or not.

179 Q. Did you understand that he had anything to do with your brother's making the map of—

A. No, not as I know of.

Redirect examination.

By Mr. Bailey:

Q. Do I understand you to say that through lower St. Louis Bay there was a line of water deeper along the Wisconsin side than any line along the Minnesota side? Did I so understand you?

A. Well, it shows that way in Meade's map there.

Q. Do you understand that to be the fact?

A. Yes, I understand it to be the fact, yes.

Q. Now you and Leonidas, your brother, were interested in the construction of the original Duluth, Missable & Northern docks, were you not?

A. Yes, sir.

Q. That show on this Exhibit 3 as being constructed along the northerly side of lower St. Louis Bay?

A. Yes.

Q. Did you at the time of that construction have any idea or had you ever heard that Wisconsin claimed anything more as far as that?

A. No, sir, we did not.

Q. You are not interested in these docks at the present time?

A. No.

Q. And had no interest in this case?

A. No interest in this case.

Q. Now calling your attention to Exhibit 3, counsel asked you about bringing a raft of logs down. You said that in bringing that down from up by Fond du Lac somewhere near where you got about to the point C, you took the line marked C and B and G and E and A?

A. Yes.

180 Q. And in so doing did you follow the main navigated and navigable channel?

A. Yes, we did for the boats that went up this way (indicating). We never went around that way.

Q. I say, when you brought these logs down in following that line did you follow the main navigated and navigable channel?

A. Yes, sir, I did.

Q. Now you told me this morning something that I overlooked calling your attention to. Were you out at Onecota at the time that the Government surveyers were surveying the bays there?

A. Yes, sir.

Q. What year was that, if you remember?

A. That was in the year '60.

Q. Did these men who were doing that work for the Government—

A. You mean the Government survey?

Q. Yes.

A. Oh, that was in the winter of '56 and '7.

Q. Did the Government surveyers who were doing that work stay at your house?

A. Yes, sir.

Q. Were there while they were doing the work?

A. Yes, sir.

Q. Did you hear any remarks made by them with reference to the character of these waters? Just state what you heard?

Mr. Owen: Objected to as hearsay.

The Commissioner: Go ahead and answer the question, Mr. Merritt.



A. Why, I heard F. A. Buckingham, who was one of the chain men, and the fellow by the name of Leander Palmer, brother of these other Palmers, was the chainmen, and I heard them say they had just got done meandering the upper St. Louis Bay and  
181 calculated finish these up as they go along.

Q. Do you know what waters they were referring to as upper St. Louis Bay?

A. Up around Millford in that country.

Q. The same territory that you have described?

A. Yes.

Q. Counsel spent considerable time with you this morning asking you what boats you knew of that ran up these waters in the early days. I don't know whether you have mentioned the Lottie Bernard. Did you know of such a boat?

A. Sure I knew her. I didn't mention the Lottie Bernard and I didn't mention the Stillman Witt and I think another boat, the Spirit.

Q. The Lottie Bernard was operated by the Howards, was it not?

A. Yes, Mr. Howard, the elder Howard.

Q. Does that look familiar to you, this exhibit, Minnesota's Exhibit 4?

A. That's her all right.

Mr. Hudson: Which is that one?

Mr. Bailey: Exhibit 4, Lottie Bernard. (Counsel examines photograph Exhibit 4).

Mr. Fryberger: Emerald.

A. She looks like Lottie Bernard. It's a side wheel boat.

Q. Do you remember this boat, the Emerald?

A. No, I don't remember her; I just seen her once in a while.

182 B. F. HOWARD was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. Your name is Benjamin F. Howard?

A. Yes.

Q. And you reside where?

A. Howardville, Manitoba.

Q. How long have you lived there?

A. Since about January 1st, 1913.

Q. What business are you engaged in, Captain, at the present time?

A. Well, lumbering and farming and fishing.

Q. That is fishing on what lake?

A. Tug boat.

Q. On Lake Winnipeg?

A. On Lake Winnipeg, yes, sir.

Q. You run a boat, gather up fish there?

A. Yes, sir.

Q. Also farming and also lumbering?

A. Yes, sir.

Q. You have some grown sons also in business?

A. Yes, sir.

Q. Where were you born, Captain?

A. Born in Sandwich, Massachusetts.

Q. What year?

A. In 1852.

Q. You are a brother of John Howard, John G. Howard, who testified on the witness stand?

A. Yes, sir.

Q. What was your father's name?

A. John D. Howard.

Q. What was your father's business in an early day before he came west?

A. He had a merchant tailoring establishment in Sandwich, Massachusetts. He sold it out and moved the family up to Newport, Vermont, in the early part of 1856.

183 Q. When did your father come west?

A. In 1856 he left us at my aunt's in Vermont while he came west.

Q. You say left you at Vermont, your mother and the other children?

A. My mother—that was before John was born. John was born there.

Q. Where did your father go to?

A. He went to Superior, Wisconsin.

Q. How long after did his family join him there?

A. It was about July 1st, 1857.

Q. You said you were born in 1852?

A. 1852.

Q. You were five years old. How did you come up to Superior?

A. We came from Newport, Vermont, to Detroit, Michigan, by rail. We then got on the Steamer North Star, sailed by Captain Sweet and landed here in Superior.

Q. In 1857?

A. Yes, sir.

Q. What business was your father engaged in at that time?

A. Previously to moving the family up there he bought out a mercantile business situated on Second Street, Superior, owned by Ray & Markell.

Q. That is Clinton Markell that used to live here and Ray that used to live here, they moved over from Superior, did they?

A. Yes, sir.

Q. Mercantile business—

A. Mercantile business and a small sawmill on Connors Point.

Q. Is that located on what has been called here Howard's Pocket?

184 A. Well, the mill, of course, was on Connors Point and the slide where the logs came up ran in to Howard's Pocket.

Q. Howard's Pocket is the same as it is shown on these maps as Howard's Bay, is it not?

A. I don't know; I suppose so.

Q. There is only one Howard's Pocket?

A. That's the one right opposite the ship yards.

Q. It is on Connors Point between the main land of West Superior and Connors Point?

A. Yes, sir.

Q. Did your father then start in the lumbering business?

A. Yes, sir.

Q. How long did he continue in that business; about how long—not so particular about the dates?

A. Oh, we cleaned up along in the '80's somewhere.

Q. Did you commence working for him in the lumber business?

A. Just as soon as I was old enough.

Q. Well, about when was that?

A. Well, it was along in the last days of the Civil War.

Q. Along the latter part of the Civil War?

A. About '65 or '66.

Q. Where did you lumber and log?

A. Well, along the bays, the St. Louis, the shores of St. Louis Bay and we cut some logs on the Minnesota side over around Millers Creek, up the bay from there; and then as fast as we got these cut off of the lands he owned on the Wisconsin side of St. Louis Bay we kept moving up until we got them in the Big Pokegama.

Q. On the Wisconsin side?

A. On the Wisconsin side, yes, sir.

Q. Did you log any from the Minnesota side?

A. Yes, sir.

Q. How in the early days in the early start did you get your logs down from where they were cut or placed in these bays  
185 down to the sawmill at Connors Point—Howard's Pocket?

A. He used to pole them down.

Q. I wish you would explain a little. I would like to have the record show how that was done?

A. Well, in those days a man generally went into a logging camp with one yoke of oxen and a small logging outfit of may be two or three men. A man that cut a hundred thousand feet of lumber was cutting a pretty fair winter's work.

Q. A hundred thousand feet of logs?

A. A hundred thousand feet of logs. This mill that we had to stock was a mill of the capacity of about 2500 feet a day. It was one of these up and down saws and it was a good day's work if you cut 3,000 feet, and it didn't take a terrible lot of logs to stock it. These men would go up there on these points with a yoke of cattle and they would take their irons for the sleigh and make their sleigh up there. When it was worn out they always left them; just took the irons off and brought them down. These banks were pretty high and they would haul both sides of these little ponds, make little rollways and part of these logs would go out on to the ice; then the last thing they done they cut the boom sticks out of pretty good sized timber, and string them around on the ice outside of this rollway and then they went to work and made what we called in those days a thorough-shot boom.

Q. Explain that, if you will?

A. Suppose this was a round log that you cut in back here two feet or so (indicating), and then hew that piece out on that side, depending on the distance through here (indicating), as to the size of the timber which they had to use. Of course the top end they wouldn't cut in as far as that. Then we used to take an inch auger and bore a hole through that. Then they had another auger that we called a boom auger which was about that high, I should judge. (Indicating).

Q. About four feet high?

A. I should judge that. And then there was a round hole in the top of that. We put a hand spike through. Then down below that, away down within six inches of the end, there was a hole cut through and a bit put through that, and then there was about six inches of a screw on the end of that, just a little larger than this six-inch hole, and we screwed that into this six-inch hole and we would pull this bit down through and we cut a hole in an upright about four inches in diameter.

Q. How would you turn that screw?

A. Turned it with two men and a hand spike through this hole.

Q. You had no boom chains like they have nowadays at all?

A. No, sir, never saw any till the fellows came up from Michigan. Then we cut this plug, usually grubs, and was rounded six inches from the root, and hewed them down until they fitted these holes easy and then put a pin through the top or two pins, usually; if one broke the other would hold. That made what was called a thorough-shot boom. That made a boom that a man could walk all around on, when they couldn't on a chain boom. We made that boom on the ice and as soon as the ice went out we rolled these logs into this boom and turned the two together and tied it up there and it was ready for transportation to the mill.

187 Q. How did you get this circular or rounding location of the boom sticks?

A. These timbers being put through that way (indicating), they would turn on this thorough-shot.

Q. The boom sticks lay on top—one on top of the other and not parallel with the water?

A. Then they would roll up and take a twist, you could twist them anyway you wanted to.

Q. In that way you could walk on these boom sticks and pole in a way that you couldn't pole a boom constructed with chains?

A. Yes, sir.

Q. Now how did you bring these rafts down to the mill. Just explain that polling a little more definitely?

A. If we wanted to go off that way (indicating) we would roll our raft around that way. If we wanted to pole that way (indicating) we would roll it the other way. If we was getting them straight we would poll it both ways.

Q. What did you do with reference to keeping a rope on land, if anything?

A. We only kept a rope on land like striking the ends of these

points along. If we could get a good pull there we would help ourselves across the mouth of these slips. Lots of it we couldn't put a rope.

Q. When did you have charge of bringing these rafts down?

A. I didn't have particular charge of it. I was a boy. My father would send me up with some men. There was no particular taking charge.

Q. Did John start in when he was a small boy?

A. He started in after I did. He was four years younger than I was.

188 Q. How long did you keep up poling these rafts down?

A. I think that the first raft that we had towed down was towed down by the Agate in '68, if I ain't mistaken, either '67 or '68.

Q. Prior to that time you poled them down?

A. Yes, sir.

Q. Now, Mr. Howard, as a boy where did you spend your time when you weren't working, with reference to hunting and fishing?

A. Whenever there was any hunting and fishing we was allowed—any time to hunt and fish—we used to go up St. Louis Bay and River.

Q. Did you spend a good deal of time up the St. Louis Bay as far as Fond du Lac hunting and fishing?

A. Yes, sir.

Q. Did you become very familiar as a boy with all these bays up as far as Fond du Lac?

A. Yes, sir.

Q. Duck hunting—

A. Duck hunting and then we used to hay up to Le Garde meadow, hunt and fish evenings.

Q. Did you bring hay down on the boat?

A. Yes, sir.

Q. What was your earliest experience in running a boat yourself?

A. My earliest experience was on the Lottie Bernard.

Q. When did your father get that boat?

A. I think it was in 1869.

Q. And did you commence to run the boat at once?

A. I went right aboard of her. I was on it as long as he owned her.

Q. Had you any experience prior to that time in navigating a boat?

A. No, sir—that is, not a steamboat.

Q. Did you run a sailboat?

A. Lots of sailboats.

Q. Up around the bay?

A. Up around the bays and rivers.

Q. When did you get your captain's license?

189 A. I think I had my first issuance of papers from Freeman Fitzgerald in '71.

Q. To get your license did you pass an examination as to your knowledge of Lake Superior waters or all these bays tributary?

A. Yes, sir.

Q. Did that include all the bays up as far as Fond du Lac?

A. I can't tell you what the questions were, at this time.

Q. Was it necessary for a pilot, in order to get a license, to have knowledge of all these bays and Lake Superior?

A. Yes, sir.

Q. And your first license was issued to you in 1871?

A. That is my recollection, yes, sir.

Q. How long did you continue to have a license from that time on?

A. I have had one ever since. I have an expired copy now in my pocket.

Q. Before you left for Canada you had a license—

A. I had a license all the time between the expiration of my license in 1872 and the reissuing in, I think, 1890, I am not positive about that.

Q. These licenses run for five years?

A. They do now. At that time they ran for one year.

Q. When you got the Lottie Bernard what did you do? Just tell us in your own language what you did with the boat, what your duties were and where you ran it?

A. I went aboard and I wheeled on her.

Q. To start with?

A. To start with.

Q. Who was captain at that time, or master?

A. The first man's name was Wilson.

Q. And you were wheelsman?

190 A. I was wheelsman under Captain Wilson.

Q. How long were you wheelsman, about how long?

A. About two years.

Q. Where did the boat run during all this time?

A. When we was outside we used to carry lumber to Port Arthur and Silver Island.

Q. From where?

A. From his mill at Superior.

Q. When you say "outside" you mean outside the Superior entry, into the lake?

A. Outside the Superior entry, yes, sir.

Q. From this mill?

A. Yes, sir.

Q. When you were inside where did you run?

A. We used to go up the St. Louis Bay and River and tow logs and run excursions, whatever we could do.

Q. How long did you run that boat as master?

A. I never was master.

Q. Did you ever run the boat yourself?

A. Yes, sir, I ran the boat myself. I was mate of it two years.

Q. You were mate of it?

A. Yes, sir.



Q. Where did you run the boat?

A. When we went up the St. Louis River there would be lots of times we didn't have a master. I used to take her up and handle her.

Q. Now, were there any boats from that time on different craft, sailing craft, steam craft, navigating these waters at the head of the lakes?

A. Yes, sir.

Q. And I will ask you whether or not these lake men discussed all these different matters the way water men do, as to channels and harbors and so on?

A. Yes, sir.

191 Q. Were you thoroughly familiar from the time, we will say from 1870 on, with the channels of St. Louis Bay and Lake Superior?

A. Yes, sir.

Q. Now do you know where the other boats as well as your own boat ran as a general thing?

A. Well, we would see that where they ran, yes, sir.

Q. Captain, I show you Minnesota's Exhibit 3 and I ask you if you recognize that as the harbor of the head of Lake Superior including upper and lower St. Louis Bay and Bay of Superior?

A. That is a chart of it, yes, sir.

Q. Now, I want to call your attention to upper St. Louis Bay. What did you understand was lower bay and what upper St. Louis Bay?

A. Well, I understood that St. Louis Bay was divided into two pieces by Grassy Point and that the upper St. Louis Bay was all that between Grassy Point and Big Island or Heugier's Island, as they called it. He used to live there. He was a Frenchman that lived on the island.

Q. That was upper St. Louis Bay and—

A. From Grassy Point to Rice's Point was the lower St. Louis Bay.

Q. Where did you understand and where was the common understanding, I might say, of the mouth of the St. Louis River? Where did the river end and the bay commence?

A. We always considered that the St. Louis River—we got into the St. Louis River when we got above Big Island.

Q. Got above Big Island at the separation of the two channels?

A. We was in the St. Louis River.

192 Q. What were the characteristics of these waters, of these two bays, upper and lower St. Louis Bay, with reference to whether they had the characteristics of river waters or bay waters, lake waters?

A. All these big ponds in here and everything made a bay out of this thing here—we always thought so.

Q. You point to upper St. Louis Bay?

A. Yes.

Q. And lower St. Louis Bay the same?

A. Same way.

Q. What about the shores? Were the shores of this bay like

rivers, shores or banks of rivers, or shores of rivers, or were they greatly indented?

A. Greatly indented, more like the shores of bays, this part particularly.

Q. What was the character of the banks of these bays?

A. The Wisconsin shore was high and steeper a good deal than the Minnesota side excepting right along by Oneota.

Q. Now I want to call your attention to the channels marked on this map Exhibit 3 and ask you to state what the usual route or travel of the vessels during all the time prior to the time there was any dredging done that you were familiar with this bay, starting at Grassy Point and going up towards Fond du Lac?

A. Those lines had to go from C. to B. and down to A. That's very close to where they used to stake out the channel there for the north channel by to get to the St. Louis River.

Q. That is, you say, the north channel, that is the channel that went to the northerly of Big Island as shown by this map?

A. Yes.

Q. When you wanted to go to the south channel or  
193 through the south channel your route from A to B was the same?

A. Very close.

Q. I call your attention to the part of this map that shows deep water in a hole running from the point marked G on the map under what is known here as the Carnegie Coal Dock and another one marked "Coal Dock" which is now the Zenith Furnace, I think. I call your attention to a point marked H. I want to ask you whether or not you ever used that in taking either channel in going up the St. Louis?

A. Never did.

Q. Did you know of any boats doing it?

A. Not to my knowledge.

Q. Did you ever see any boats in there other than those going to Milford?

A. Never did.

Q. Was that used, this deep hole which is marked H, for any other purpose by navigators excepting for the purpose of going to Milford to get lumber?

A. Not to my knowledge.

Q. How did the boats get that lumber that was sawed at Milford?

A. Sailing vessels used to go up there and load part of the cargo, George M. Ford and George R. Fetter, and the old Neptune and sometimes the Pierpont.

Q. Was that a sailing vessel too?

A. Yes, the Pierpont was the larger of the lot; the George M. Ford and the George R. Fetter, were boats that drew about six feet loaded.

Q. Could a steam vessel drawing the water they usually drew at that time get up to the dock on the main land at Milford?

A. No, sir.

Q. How did they handle that with reference to getting their lumber out?

A. A good deal of that lumber that was sawed at Milford  
194 at that time was sold locally down to Superior. They took that out on scows. Then they had a dock outside there where they used to take their lumber out and pile it and these vessels would come up and load to such depth of water as they could get out with and then go out.

Q. What was your knowledge at the time, of the condition of the water between the point marked C on this map Exhibit 3 and this hole that I speak of that led up to Milford?

A. Well, the general understanding at that time was that you could get in to it but you had to come out the same way you went in.

Q. Was there any bar there between the point marked C—

A. That was the reason we had to do it, on account of the bar.

Q. Did you ever know of any boats drawing six feet of water going between the point marked C and the deep water in toward Milford?

A. I don't think I did.

Q. Never knew of any boats going that way?

A. I don't think so.

Q. Do you think they could get in there in those early days?

A. I don't know. It wasn't the general way they went.

Q. For how long a time did you know of that bar being there?

A. We sounded all over there to find a chance to get out with our boats and we took small boats and poled a scow across, clear across back and forth here to get up—if we could have got up here (indicating)—

Q. If you could have got up through that hole marked H—

A. If you could have got up here it would have been very much easier for us but we always brought her in trouble here.

195 Q. You say "here"; that is to the point marked westerly of C, you couldn't get over?

A. No, sir.

(Recess, ten minutes).

Q. Calling your attention again to Minnesota's Exhibit 3, I will ask you which was the main traveled channel, the one to the northerly of Big Island from the point marked B on this map or the route to the southerly of Big Island from the point marked B?

Mr. Owen: Objected to as calling for a conclusion of the witness.

A. I think most of the tugs and small boats went through the cut-off.

Q. That is the southerly channel?

A. That is the southerly channel.

Q. Did you frequently go up the channel to the northerly of Big Island from the point B?

A. Yes.

Q. Did you frequently go in through Milford dock?

A. No, sir.

Q. Did you go in to the Milford dock?

A. Not with that boat.

Q. No, but I mean at other times?

A. I did at other times. Used to be a good trout stream. Used to go up and fish trout often.

Q. Did you used to be up to this Le Garde meadow to haul hay?

A. Yes, sir, cut hay, stay up two or three weeks at a time.

Q. Now, coming down on the lower bay, I want to ask you where the deep water was in the lower bay, and the part of the bay that was mostly navigated by boats in the early days?

A. It was on the southerly side of St. Louis Bay.

196 Q. You spoke to me about being very deep water at the towhead. Do you know where that was?

A. I don't know where it is on this map. If it ain't changed any I could find it, though.

Q. Here is Grassy Point, marked Grassy Point on Minnesota's Exhibit 1, and I call your attention to this deep water to the easterly of Grassy Point, 36, 45, 30, 30, is that point there the one referred to as the towhead?

Attorney-General Owen: Objected to as leading.

A. There was very deep water there at the towhead right up close to the shore, if that is the towhead, if that deep water indicates it. I don't know about that. It seems to me it was further down this way than that map shows it. I know the depth of the water at the towhead because I lost some horses there and went to fish them out.

Q. That was on the Wisconsin side?

A. That was on the Wisconsin side. It was along about thirty or forty feet.

Q. Calling your attention to Exhibit 3 I will ask you if the original entry was as it appears on this Exhibit 3?

A. No, sir.

Q. What was the change?

A. Where is the old light-house here? If that is the old light-house, and I think it is, that used to be the end of the point.

Q. Calling your attention to Exhibit 1, does that indicate—

A. Let me see that glass. I can't see very good. See where the end of the point ends. Yes, sir, that's very close to just the way it used to be in old times.

197 Q. That is the Meade map is more accurate at this time?

A. In the early days, yes, sir.

Q. In the early days, than Exhibit 3?

A. Yes, sir.

Q. There have been some changes made?

A. Yes, sir.

Q. What is the character of the bottom of upper St. Louis Bay?

A. Very soft.

Q. Very shifty?

A. Shifty, yes.

Q. Would the fact that the soundings showed one thing one year

be evidence of what the soundings were the next year in the same place?

A. The main channel there that we used to use to go up didn't change a great deal. We used to have a range way over on the other side so that when we went to stake it we knew pretty near where to start in to sound and it wouldn't change a great deal. It changed some, and I know there was some places that we would have to evade year after year, that is, change from one place to the other.

Q. Later on, Captain Howard, you bought a yacht of your own, did you not?

A. Yes, sir.

Q. When did you get that?

A. I think I bought that in '91.

Q. That was a very large yacht?

A. Not very large; 108 feet long.

Q. And you ran that in the waters of Lake Superior and also in the bay?

A. Yes, sir.

Q. And you were captain at that time also?

A. Yes, sir.

Q. Do you hold a captain's license now?

A. Yes, sir.

198 Q. For Lake Superior or on Lake Winnipeg?

A. I might explain that to you. My license when I became a Canadian citizen, of course, it expired. It's out. I hold the papers.

Q. You are a citizen now of Canada?

A. I am a citizen of Canada. I have no right to go on these waters and use my license.

Q. Were you at one time an official of this city?

A. Yes, sir.

Q. About when?

A. You've got me now; I don't know. I forget.

Attorney-General Owen: You mean official of Duluth?

Witness: City of Duluth. I think I was an alderman for either four or six years and president of the council I think two terms.

Q. I show the witness Minnesota's Exhibit 16, and will ask you did you ever see that map before?

A. Yes, sir.

Q. Where did you get that map?

A. My father gave it to me.

Q. How long has he been dead?

A. He died in September, '81.

Q. Did he have that many years before he died?

A. He gave it to me a good many years before he died. I don't know how long he had it before he gave it to me.

Q. How long before 1881 do you think you had it?

A. Oh, must be close to ten years, I guess.

Q. Was that a recognized map in the vicinity of the head of the lakes during these years that you had it?

A. Yes, sir.

Mr. Fryberger: I will offer in evidence Minnesota's Exhibit 16, being a map of a portion of the lands of the St. Paul & Duluth Railroad Company showing pine timber district on St. Louis River and its branches tributary to Knife Falls.

The Commissioner: What is the date?

Mr. Fryberger: No date on it.

The Commissioner: How old is that map, Mr. Howard?

The Witness: That is my father's writing. These lands he wanted me to look up.

Mr. Fryberger: He said his father died in '81 and he had it a good many years before that.

Q. Is it over forty years old?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

Q. I will ask you, Captain Howard, to look at this map and to the dotted line running from the point between Rice's Point and Connors Point marked "State Line" running all the way up through St. Louis Bay and upper St. Louis Bay and ask you if that dotted line and these words "State Line" were on there at the time you got that map?

A. They were.

Q. Same way as it is now?

A. Yes, sir.

Cross-examination.

By Mr. Hudson:

Q. Mr. Howard, I understood you came to Duluth in about the year 1857?

A. Yes, sir.

Q. And have resided here until the last five or six years, until you went to—

A. Not all the time, no, sir.

Q. I understood you to say in your direct examination that some of the first work that you did on the waters of the St. Louis Bay and River was logging?

A. Yes, sir.

Q. Conducting logging operations?

A. That is the first work I did.

Q. Can you state when you commenced to do that work?

A. You mean on the waters?

Q. Yes.

A. My recollection is that it was the year that the Civil War ended, about '65 or '66, along in there some time.

Q. 1865 or 1866?

A. Yes, sir.

Q. And you continued that work up to about how long before you got a tug to do that work?



A. The first raft that we ever towed with a tug was in 1868; that is my recollection, '68.

Q. Then it was about two years that you poled the logs down?

A. Poled, yes, sir.

Q. You stated that you cut some of these logs or the greater part of the logs on the Wisconsin side of the bay?

A. Yes, sir, most of them.

Q. And as I recollect your testimony, you commenced to log nearly opposite Grassy Point in there and continued up until you reached Big Pokegama?

A. Yes, sir, we got a good many down there.

Q. And that you got these logs down by poling them?

A. Some of them, yes, sir.

Q. Now in your testimony you said you put the logs in a boom along the shore?

A. Yes, sir.

Q. It was more convenient, was it not, to have these logs poled down to Connors Point or Howard's Pocket by being close to the shore than it was to swing away out into the current, was it not?

201 A. Sometimes you couldn't stay where you wanted to.

Q. But that's where you wanted to stay?

A. That's where we would like to stay, yes, sir.

Q. And at various times you used ropes to assist you?

A. Well, sometimes we did. Sometimes we had a little anchor and we carried that out with a small boat and pulled along when it got too hard poling.

Q. I understand you testified that at certain points——

A. At certain points for instance we got into deep water at tow-head, we would have to tow ourselves around until we got ourselves into water we could handle ourselves in again.

Q. To pole these logs during this period that you poled them down, what depth of water would you require?

A. Two foot or two foot and a half would be ample.

Q. Then from two to three feet would serve the purpose?

A. All purposes as far as floating logs was concerned.

Q. And as you continued to cut off the logs up the bay toward Pokegama inlet you could use this same old channel and continued to use it to do that floating right along next the shore, didn't you?

A. That is the only place you could get out.

Q. And two or three feet of water was all that was required?

A. To float the logs, yes, sir.

Q. As a matter of fact—if it wasn't for the convenience in short-cut in getting them down to Howard's Pocket, and convenience of using the bank to assist you in getting them down you could

202 have floated your logs anywhere on the bay?

A. No, you couldn't do it. Along in the summer these weeds come up and this grass and you have got to get out of that shallow water. You have got to get out where the water is so deep that the weeds don't obstruct your logs. If you get a boom of logs in a lot of weeds it's a pretty hard proposition to get them through,

but if there were no weeds and all considerations being equal you could have got along with three feet of water.

Q. You commenced to raft logs down very early in the spring, didn't you?

A. Well, as soon as the weather got warm.

Q. And that was before the weeds came up?

A. Not always. We generally had logs enough left over to start the mill.

Q. Then in 1868 or 1869 you secured a tug, do I understand?

A. In '68 there was a tug came up here. My father hired it and towed some logs down, yes, sir.

Q. About what draft?

A. Oh, I think about six feet or six foot six along there; may be seven feet.

Q. How long did you use that tug there?

A. Well, I think we made two or three tows with it that season.

Q. Any after that season?

A. Not with that boat, no, sir, not to my recollection.

Q. Well, a considerable part of this work that you did in rafting logs was done on the outside of the bay, was it not, outside of Rice's Point along Wisconsin shore?

A. You mean between Connors Point and Grassy Point?

Q. Yes.

A. Oh, not very much. We cut some logs in there. You see there was a time before I got—when I was too small.

They used to cut the logs along there. They had cut pretty well up by the time I came up. He started that mill up in '57, '57, '58, '59, '60 and on to '66, all these years in there that I was pretty young to go out on the raft. My father was cutting logs all along that close haul before I got to work. That used to be a big swamp.

Q. These logs that you towed with this tug that year were gotten up at what point?

A. Up at Big Pokegama.

Q. Did you follow the shore line down in bringing those?

A. No, sir, we came out of the Big Pokegama and came out in the center of the channel to get water. We had the channel staked out.

Q. The channel was too shallow along the shore?

A. Along the shore, yes, sir.

Q. Do you know what the name of the boat was up to, say 1884 or '85, that had the greatest draft of water, required the greatest depth of water?

A. Up in this country?

Q. Yes.

A. Up to '85?

Q. Yes, in St. Louis Bay and St. Louis River that was used there?

A. I don't think I do.

Q. You don't know the name of the boat?

A. There was a good many boats. There was quite a few boats up there between those times. You are getting into a boat country now.

Q. I mean that was in use on the St. Louis Bay and River?

A. You must remember that during that time the Duluth and Superior came up here. They were quite deep draft boats. I think they used to draw, my recollection is, close to eight feet; may  
204 be a little more.

Q. Where did they run?

A. Used to run between Duluth and Superior.

Q. Did any of them run up the river to Fond du Lac?

A. I don't know; I don't think so; I don't know; I couldn't testify as to that.

Q. Do you know of any boats that ran up the river to Fond du Lac during those years?

A. Which years?

Q. 1884 or '5?

A. No, sir, outside of the Emerald. She used to run up partway or up there somewhere; I never rode up on her.

Q. You never navigated above Big Island?

A. I navigated the Lottie Bernard above the Big Island but I never did the Emerald. I had nothing to do with her.

Q. The Lottie Bernard drew about six feet of water?

A. Yes, she drew more than six; pretty close to seven.

Q. You say you sometimes went south of the Big Island and to the junction—and you got into the St. Louis River from the south channel—until you got into the St. Louis River from the south channel?

A. I got out of the St. Louis River once from the south channel and I never did but once with that boat. There was an elbow in there, and in making that bar she drifted down to the bank and we had to carry the anchor out and was about a half a day getting off, and after that we took the other channel.

Q. That is you took the channel around to the north of the island?

A. Yes, sir.

Q. I show you Minnesota's Exhibit 3 and call your attention to the most southerly point of Big Island and will ask  
205 you to point out this point that you attempted to go through the south channel at one time?

A. Right down here (indicating); right down on this side (indicating).

Q. Is that the junction of this what you call the south channel with the channel that runs around to the north and west of Big Island?

A. You are going down. You go right by this.

Q. That is the junction point?

A. Yes.

Q. From that junction point I will ask you to trace down with the pencil the channel that you took?

A. Well, as near as I can, we used to come over here and go by this Spirit Lake in here (indicating). Let me see that other chart, that old one. There has been some filling in here or something on this one, hasn't there?

Q. That has been filled in by the dredging of the channel?

A. That don't look natural.

Q. Witness refers to Minnesota's Exhibit number 1. Now the junction is——

A. Let me get straightened out here. Where is that Spirit Lake dock? That must be there (indicating). We went right down here. That other one shows islands. You couldn't get through here (indicating) but I know we went down around this way and came up in there. Where is that little island in there? Came in through here and right out this way (indicating).

Q. Now, will you follow me; the witness testifies that leaving the junction of the south channel with the channel that runs around to the westerly of Big Island he takes the direction shown on Minnesota's Exhibit 1 in a westerly direction where the soundings  
203 appear to be the deepest, to a point which he has pointed out on the Minnesota shore as Spirit Lake dock; is that it?

A. Well, landing, didn't use to be much of a dock there; used to be a little landing place.

Q. And continued to follow the portion of the channel, the deepest portion of the channel, to the northwest of the island, to a point northerly——

A. Where is that little island?

Q. Northerly of the little island which has been referred to as Tollis Island. Do you know that by that name?

A. I did not, no, sir.

Q. Referring to Minnesota's Exhibit 3, the little island the witness refers to has the letter K marked on it on Exhibit 3? The channel that he refers to is north of the island with the letter K, then running in an easterly direction to the junction in Exhibit 3 with the dredged channel.

Mr. Fryberger: What is the point in red, point marked C; down here, isn't it (indicating)?

Q. To the point marked C in red. Did you make this trip around there through this channel many times with that larger boat?

A. Yes, sir.

Q. Was that a well-defined channel through this point?

A. I don't know. We never had any trouble after we got up here. Never had any trouble after we got to Swanson's. Had no trouble anywhere here after the stakes was set. Trouble was in the spring when you would go to set the stakes.

Q. You had no trouble because this was a well-defined  
207 channel, deep channel?

A. There was water enough for us after we got it staked out.

Q. This staking it out was simply to indicate where the channel was?

A. We would take a pole and go and find where the deepest water was crossways and then set two stakes down.

Mr. Fryberger: On either side.

The Witness: On either side.

Q. Your purpose was to stake out the channel?

A. Yes, purpose was to keep us in water we could float in.

Q. About the time that you made these trips did other boats of the same draft of water go up the river; did you know of other boats?

A. Well, there was other boats there but there weren't many boats here then. There was a little tug; I can't remember her name now. Can I ask Charlie McManus a question?

Mr. Hudson: Certainly.

The Witness: What was the name of that—some cousin of yours brought up after the Amethyst was here. Didn't you have a cousin that brought a tug up here after the Amethyst, after the Witt?

Mr. McManus: Hattie Vincent.

The Witness: I have seen her up the river here but never paid any attention to her.

Q. Isn't it a fact, Mr. Howard, that any boat drawing eight or nine or ten feet of water, to go from the south end of Big Island here (indicating), would have to take this north channel around the north and west of Big Island that you have just described?

A. I think ten feet of water would bother them pretty bad then days.

208 Q. Well, the soundings here show sixteen feet and fourteen feet of water?

A. I can remember my pole didn't find it. I don't know what the map says. In spots you wouldn't get any ten feet of water.

Q. Well, nine feet?

A. I couldn't testify to that. I looked for water close to seven feet; when I got that I went along. Here was good water; tugs could make it.

Mr. Fryberger: Indicating the south channel.

The Witness: Indicating the south channel. After making this turn, slow me down, and I went in here (indicating) and on to that bank, and I was half a day getting off.

Q. You testified that this upper St. Louis Bay was very soft and muddy; was that the fact only with reference to the more shoal water or would that hold true with reference to the deep channel?

A. I can't tell you about them channels much. I don't remember. My experience has been poling logs there. When I found the mud, when I got my pole in the mud, that was my experience in rolling these logs around.

Q. You don't know anything about going on that—

A. All I know is that when we went out and sounded it was soft enough to stick the stakes in and hold, and when we was poling logs down there it was kind a job sometimes, if you had been pushing very hard to get your pole out. Once in a while you would strike the sand. Then you would strike the soft stuff.

Q. That was in shallow water along near the Wisconsin shore where you poled the logs?

A. Possibly.

Q. Isn't that what you want to confine your testimony to?

209 A. Possibly. We used to pole our raft day and night there. That's possibly so.

Q. You testified that you got a boat of your own in 1891?

A. Yes, sir.

Q. What was that boat?

A. She was a small boat 108 feet long and 15 feet beam.

Q. Did you use it on the St. Louis River?

A. I have been up to Fond du Lac a good many times.

Q. How long did you run the boat on the St. Louis River?

A. I sold her to the United States Government in—oh, I can't tell you the year. I must have had her about three or four years, something like that.

Q. Do you know when this new channel was dredged?

A. I do not.

Q. Was it dredged after you quit navigating the St. Louis River?

A. First?

Q. Yes.

A. Yes, sir.

Q. Well, after the time you had this boat in 1891?

A. I can't tell you. I don't know. I have forgotten exactly about that. About in '91, whether that was '92 or '93, whether that was dredged then or not; but I don't think it all was; may be some of it; I don't think it was; I wouldn't be positive as to that.

Q. Do you recall the fact that there was a sawmill at New Duluth in 1890 and '91?

A. No, sir.

Q. Do you know whether or not it is a fact that there were  
210 barges loaded with lumber there and brought down the river?

A. That may be. The channel was all straight when I went up there in '91 and '92. I didn't have to stake it them times. We didn't start up till late in the season.

Q. But you do know that there was barges of lumber brought down from New Duluth?

A. I couldn't tell you. I don't know that they were brought down at that time; but I didn't do any sounding to go up here with this Nautilus.

Q. How much water did she draw?

A. She drew six feet, strong six feet.

Q. In going up there did you go west of the island?

A. Went north of the island.

Q. North and west of the island?

A. Yes, sir.

Q. In that channel that you have described?

A. Yes, sir.

By Mr. Gard:

Q. As I understand it from your testimony you searched around



up in the bay or river up there to find a place where your boat could go. That drew about how much water?

A. Seven feet.

Q. And then you marked it out?

A. Yes, sir.

Q. And all you needed was a place to run where you had seven feet of water; is that right?

A. We got the deepest water there was.

Q. Did you get the deepest water there was?

A. Yes, sir.

Q. I want to call your attention to Wisconsin's Exhibit 1, which is the Meade map without the red lines, and I will ask you, I  
211 will call your attention to the point immediately east of Grassy Point and ask you if the deep water is indicated there on this map by the soundings?

A. I don't know anything about that. I couldn't tell you about that, because we used to come to here (indicating) all right.

Q. By "here" you mean end of Grassy Point?

A. Opposite the end of Grassy Point. We used to come to here. Then if the thing hadn't been staked we had to stop until we staked it. Where is that little island? Is that it? Is that the little island?

Mr. Fryberger: That is the little island.

The Witness: We used to come around by that, pretty close to it, and come up here (indicating). Used to come in through here like this, around in here. I can't tell you exactly. We used to hunt up the best water and get in here until we struck in here somewhere, and then after that we struck good water.

Q. In running the line through you have gone over some soundings that are only six feet and one of them five feet?

A. Can't help that. We found the right places. I know we found the right place to stick stakes down.

Q. You had, then, seven feet of water?

A. Yes, sir.

Q. And that is all you needed?

A. That's what we want. We got the deepest water.

Q. Do you say you got the deepest channel when you went over these soundings?

A. Yes, sir.

Q. Do you see these soundings marked on the map there,  
212 21, 23, 24?

A. I didn't read them. I see them all clear through all the way up.

Q. Up to what?

A. To where the Milford boats came out.

Q. Are those soundings correct?

A. As far as I know.

Q. Then the deepest water was over there?

A. In that hole.

Q. In that channel marked H?

A. That ain't a channel; that's a hole.

Q. Now, Mr. Howard, I want you to start at Grassy Point and read the soundings right up that line up of what you call the hole up to the island there, what you call Little Island?

A. Yes, sir.

Q. Now you start there at Grassy Point and follow the deepest water?

A. Yes, sir.

Q. Now you may read those soundings?

A. Where is Milford on here? Milford is here, ain't it? Ain't that Milford?

Q. That is my recollection of where Milford is but I am not sure.

A. Let me get hold of this again. The deepest water follows around this Milford channel until you get to this bar in here and that you can't get over.

Q. You mean the deepest channel, the deepest water, is this channel marked II, isn't it?

A. Up as far as Milford if you want to go to Milford.

Q. That is the deepest water there is, anywhere on the bay there, isn't it?

A. Yes, sir, if you want to go to Milford.

Q. It is the deepest water there is anywhere on the bay, isn't it?

A. Here is a hole down here by towhead that's deeper.

Q. That's below Grassy Point, isn't it?

A. Yes, sir.

213 Q. There is no deeper water above Grassy Point than there is in that water marked II?

A. I don't call that a channel except the Milford channel. It would be like a slip cut in to go to Milford.

Q. You didn't know of anybody cutting it in there?

A. No, sir.

Q. It was natural in there?

A. Yes, sir.

Q. Did you ever go through it?

A. Yes, sir.

Q. How did you come to go through it?

A. I went through with the boat.

Q. What boat?

A. I went through with the boat, George W. Ford; I went up with Captain Parker.

Q. What were you going for?

A. Went up for lumber.

Q. Where?

A. To Milford.

Q. And you went up that channel II?

A. Yes, sir.

Q. How often do you think you went up that channel II?

A. With the vessel, that is the only time to my recollection.

Q. Without a vessel?

A. I have been up a good many times, though; probably fifteen or twenty times.

Q. On what?

A. On small boats. Go up there trout fishing—great trout fishing.

Q. What kind of boats were they?

A. Sailboats.

Q. When was it that you went up there fifteen or twenty times?

A. I used to go up there often, four or five times a summer.

Q. Up channel H?

214 A. Go right on over there. We wouldn't follow that channel; wouldn't have to,—*like* draft sailboat.

Q. You would go anywhere?

A. Yes, sir. We would go up to Milford.

Q. You have been over that channel H many times in a boat?

A. Yes, sir. And then I will tell you another circumstance that happened there. My father and this man Keely that built this Milford mill got into a lawsuit which lasted twenty years, and I used to have to go up there with my father once in a while with a small boat looking the logs over. The United States Marshal seized the logs and they had a lot of trouble. I was a young man then. We used to always go along and catch a few trout.

Q. Your navigation was over the south channel, the channel south of Big Island, and part north?

A. Yes, sir.

Q. Most of it north?

A. Most of it north, yes, sir.

215 CHARLES A. KRAUSE was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. Where do you live, Mr. Krause?

A. Fond du Lac.

Q. How long have you lived there?

A. About sixty years.

Q. You are a married man?

A. Yes, sir.

Q. Have a family?

A. Yes, sir.

Q. Do you run a general store at Fond du Lac at the present time?

A. Yes, sir.

Q. How old were you when you came to Fond du Lac?

A. Three years.

Q. And how long have you been in business in Fond du Lac?

A. Oh, pretty much all my life.

Q. You lived with your father there and mother from the time you were a little boy when you were three years old till you were grown?

A. Yes, sir.

Q. And then got married and carried on an establishment of your own. Now, Mr. Krause, in the early days did you spend a good deal of time on the waters of the bay, St. Louis Bay—St. Louis River?

A. Yes, I did quite often.

Q. As a boy did you 'o more or less hunting and fishing on the waters of the bay?

A. Yes, sir, I did.

Q. And after you grew to young manhood and during your life I will ask you if you have made a good many trips from Fond  
216 du Lac by water to Duluth and Superior?

A. Well, I did make quite many trips; I couldn't tell how many.

Q. How did you people in the early days get your produce down to Superior and Duluth, stuff you raised there in the summer?

A. Well, we got it down by sailboat.

Q. Were you familiar with the routes that the boats traveled in going up and down these bays?

A. Yes, I was.

Q. Calling your attention to Minnesota's Exhibit 3 I will ask you if you recognize that as a chart of the situation at the head of Lake Superior showing St. Louis Bay, upper and lower?

A. Yes, sir.

Q. Now, what was that part of the bay to the westerly of Grassy Point known as, what was it called—that is, among you old settlers?

A. You mean the bay?

Q. Yes; was it known as upper St. Louis Bay or—

Attorney-General Owen: Objected to as leading.

A. I want to take a look at that.

Q. Here is Grassy Point (indicating).

A. Well, we always used to follow—

Q. I am not asking you anything about that. Read the question. (Question read by Reporter:) "Yes; was it known as upper St. Louis Bay or—?"

A. Yes.

Q. What was the body of water to the westerly of Grassy Point known as?

A. St. Louis Bay, I guess.

Q. Was it distinguished in any way from upper St. Louis Bay?

A. No.

217 Mr. Hudson: To the easterly, you mean?

Mr. Fryberger: To the easterly of Grassy Point. Thank you, Mr. Hudson.

Q. What was that known as?

A. That was the bays and rivers, is the only think I know of.

Q. Did you ever hear that part to the east of Grassy Point called lower St. Louis Bay?

Mr. Hudson: Objected to as leading.

A. Yes.

Q. Now I want to call your attention on this map to a hole, or sometimes they call it a channel, running from a point off Grassy Point from the letter G marked in red, up in a northerly direction, under Carnegie Coal Dock, what is marked as Carnegie Coal Dock,

past the red letter H, and under the point of land marked on this map "Coal Dock" up toward the point marked "Milford." Do you recollect Milford.

A. Yes.

Q. Now, I want to ask you if in the trips that you made down the river, down this St. Louis River and down the bay, whether you went north of Big Island or whether you went south of Big Island, did you ever sail around in through this hole?

A. No, sir.

Q. Did you ever know of it being used by boats except to go up to Milford and back?

Attorney-General Owen: Objected to as leading.

A. No, I did not.

Q. Do you know which channel was used the most in the  
218 early days by the boats going up upper St. Louis Bay; that is, whether the channel to the north of Big Island or the channel to the south of Big Island? Which was used the most?

A. Well, we past- through (indicating); we used this shortcut through.

Q. Yes, I know you used this shortcut to go to the north channel?

A. Yes.

Q. But which one did you use the most after you got to the point marked B? Did you use the south channel more than you did the north channel or about the same?

A. We used the shortcut more than anything else.

Q. Yes, I know you used the shortcut more than anything else; but about this using the channel south of Big Island and through the Devil's Elbow, did you use that?

A. That's what we used.

Q. Do you know whether any of the boats used the north channel going around the north of Big Island?

A. No, not at that time.

Q. You didn't know of any boats using that?

A. No, sir.

Q. And when you came down you always used the south channel?

A. Yes, sir.

Q. That was a much larger channel?

A. Yes.

Q. You never did any sailing?

A. No, I generally used to steer the boat.

Q. Did you help run the boat?

A. No, the oars, when I was a boy the oars were too heavy.

Q. Did you ever help run a sailboat up and down this river?

A. I used to steer this boat carrying this produce. They put me  
219 in to steering the boat, and when there was no sailing they used to take the oars.

Q. Did you ever carry supplies back and forth on this boat up to the Indian village?

A. Yes, sir.

Q. Did you do that for several years?

A. We done that with the old settlers up there. There was six or eight of them would go together and take me along to steer the boat.

Q. Did you do that for a good many years?

A. Till the St. Paul & Duluth Railroad was built. After that I haven't done it.

Q. Do you recall when the St. Paul & Duluth Road was built?

A. Not exactly.

Q. Well, about when?

A. Thirty-nine years ago, I think.

Q. Thirty-nine years ago?

A. Somewheres along there; I couldn't tell exactly.

Mr. Bailey: It's more than that; more than forty.

Mr. Fryberger: Thirty-nine is close enough. I think that is all. You may cross-examine.

Cross-examination.

By Mr. Gard:

Q. You live at Fond du Lac?

A. Yes, sir.

Q. How long have you lived there?

A. About sixty years; that is off and on. I was gone a little time and went back, but that was my home.

Q. And you say you came down the St. Louis River sometimes in a sailboat?

A. Yes, we came down in a sailboat, yes.

Q. How often would you come down in a sailboat?

220 A. Well, sometimes we would come down twice a week and sometimes not for three weeks again, and so on.

Q. And you usually came south of Big Island?

A. Yes, through the Devils Elbow; that is the way we came.

Q. You call the Devils Elbow the turn at the south side of the Big Island?

A. Yes, sir.

Q. And you always took that channel, did you?

A. We always took that channel.

Q. Because it was the nearest, didn't you?

A. Well, I don't know about that.

Q. That is the reason you took that, wasn't it?

A. Well, that wasn't the reason.

Q. What was the reason?

A. Because if we sailed through the other part of it—we tried that once and we got stuck and was kept all night there in the channel or in the grass there.

Q. You got in the grass, did you, the other way?

A. Yes.

Q. And after that you didn't try it any more?

A. We wouldn't try it any more because we didn't want to stay there all night.



Q. Now when you got below Big Island there you could go anywhere in the water with your sailboat, couldn't you?

A. When it was empty, yes.

Q. And you in sailing, you tacked, didn't you, with the sail?

A. No, the wind was right directly from the north?

Q. Was it always just direct from the north?

A. Pretty much, yes.

Q. And you didn't tack any?

A. Not to amount to anything.

Q. It was always the same direction?

221 A. Well, yes. When we got stuck that time there, that I know of, that I remember, we turned back and went out the other way because we were liable to get stuck again.

Q. That is, you went back and took the shortcut?

A. Yes, we took the shortcut.

Q. The shortcut, you mean the channel south of Big Island?

A. Yes, sir, through what is known by the name of the Devils Elbow or what they called it.

Q. Yes, south of the——

A. Yes.

Q. Did you ever see what is called the Meade map?

A. No, sir, I never saw it.

Q. I show you Wisconsin's Exhibit 1. Now Big Island is marked on this map "The Island", isn't it?

A. That is the Big Island.

Q. It is marked on this map "The Island", isn't it?

A. Yes.

Q. You came through the Devils Elbow southerly of that island, didn't you?

A. Yes, that's where we always used to pass.

Q. Now, you take the pencil and run the line that you usually traveled with your boats after you went through the Devils Elbow southerly of the island?

A. Well, we went through—right here is where we came down the river and we went through like that (indicating).

Q. Now you have indicated. Mark that on the map. Just run a pencil mark on the map just where you ran?

A. I don't understand that either.

Q. There you see Big Island, don't you, "The Island"?

A. Yes.

Q. And here is the Devil's Elbow right there?

222 A. Yes. And where is the channel?

Q. This mark is the channel right there, around Devils Elbow.

A. That's what we called the channel.

Q. Now run the pencil over where you——

A. Where does the river here empty into the bay?

Q. That's for you to say. I want to know which way you went. I don't care where the river empties into the bay.

A. We followed the river down into the bay.

Q. When you got into the bay what did you go?

A. We went right straight through for Superior.

Q. You could go anywhere in that boat?

A. No, sir. We made a straight cut right for the point.

Q. For Grassy Point?

A. We went right straight through like this (indicating).

Q. And after you came from southerly of Big Island you went right straight through the bay to the channel between Grassy Point and Wisconsin; is that right?

A. Yes; we took the nearest point right through here and turned in to Superior around the point.

Q. That is around Grassy Point, you mean?

A. Yes.

Q. You didn't follow any channel after you got around the Big Island, did you?

A. No.

Q. You didn't try to follow any channel?

A. Why, we couldn't follow any channel. There was a big bay in there, but we went, after we got out of the mouth of the river we struck right straight for that point and then down the bay to Superior.

Q. Where do you consider the mouth of the river?

223 A. Well, I could show you the mouth of the river. I can't tell anything much about this map but I can show you the mouth of the river if I was on the ground, just the same as I could show you this room here.

Q. Where do you consider the mouth of the river?

A. Let me see. Where is the bay? This is the bay here, ain't it?

Q. There is Big Island. Now, will that locate you. There is Big Island there that I am pointing to. Here is Pokegama Bay. There is what is now called Kimball Bay?

A. I don't understand that map.

Q. Well, tell me without looking at the map where you consider the mouth of the St. Louis River?

A. The mouth of the St. Louis River empties into the bay, the St. Louis Bay.

Q. Where do you consider that that is?

A. On the south side.

Q. On the south side.

A. Yes.

Q. Of the Big Island?

A. Of the Big Island?

Q. Do you consider that the main channel south of the Big Island?

A. Well, it was at that time, I don't know.

Q. What time?

A. That is when I used to sail.

Q. When was that?

A. Well, I was twelve or fourteen years old, somewheres along there.

Q. How long ago would that be, then? When were you born?

A. 1854.

Q. Then that was in '66 or '8?

224 A. About '60—Yes, '66. Yes, just about '66. And from that on I sailed on until after the railroad was built and then I didn't have anything to do with the river.

Q. After the railroad was built——

A. After the railroad was built we didn't sail any.

Q. All of your navigating was on the sailboat?

A. Yes.

Q. Did you meet boats going up and down the river when you came up and down it?

A. No, sir, not that I know of.

Q. Never met a boat?

A. There never was any boat at that time on the river that I know of.

Q. There wasn't?

A. There was nothing for them to run up there for.

Q. When did you first know of boats running up the St. Louis River?

A. I couldn't remember that; I couldn't tell you.

Q. But you are sure that you never saw any boats on the river or the bay there when you were going up or coming down from Superior in your sailboat?

A. I am sure I didn't see any myself when I was sailing.

225 Rec'd July 20, 1917, D. E. Roberts, Commissioner.

THURSDAY, July 19, 1917—10 o'clock a. m.

The hearing was resumed before the Commissioner Hon. David E. Roberts pursuant to adjournment.

ALBERT SWENSON, was called as a witness by the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Examined by Mr. Bailey:

Q. Mr. Swenson, you are a resident of the City of Duluth?

A. Yes, sir.

Q. And were born in what year?

A. 1862.

Q. And where were you born?

A. At the foot of Thirty-ninth Avenue West and Oneota Street.

Q. In the city of Duluth?

A. Yes, sir.

Q. That is in the part of Duluth now called Oneota, and which is just easterly of what is known as Grassy Point, is it?

A. Yes.

Q. And born, you say, in 1862?

A. Yes, sir.

Q. How long did you reside at that place?

A. Oh, until the fall of 1870.

Q. And then where did you move?

A. To what we call Spirit Lake now; it is on the shores of upper St. Louis Bay.

Q. And have you resided there ever since?

A. Yes, sir.

Q. Now calling your attention to Minnesota Exhibit 3, I will ask you if you can point out where it is you reside now? You say on the shores of Spirit Lake?

226 A. Yes, sir; up there. (Indicating.)

Q. With your permission we will just put an S there to mark Swenson. I mark an S on Minnesota Exhibit 3 opposite the little dock marked on the exhibit. Is that the point where you have resided since 1870?

A. Yes, sir. Not the same house but in the block.

Q. What has been your business?

A. Well, I was working in lumber and in the woods, and worked on the river with logs; farmed. Did most of the work on the woods, on the river and on the farm.

Q. You have navigated these waters of the St. Louis River and of the bay of St. Louis, have you?

A. Not more than a small boat; not on any large boat; only a trip now and then on a passenger boat.

Q. Well, you have navigated with boats drawing what draught?

A. Oh, that which the ordinary row-boat or sail-boat would draw.

Q. From your place of residence, and being here so long, were you familiar with the traffic up and down these waters between Grassy Point and Fond du Lac, say?

A. Yes, sir.

Q. The course of traffic.

A. I saw most of it, I guess; what was going on.

Q. Calling your attention to Minnesota Exhibit 3, and to a place right at Grassy Point, in the channel, I will ask you what course the main traffic, commercial traffic, took from that up towards Fond du Lac.

Mr. Gard: May it please the court, I object to the witness being shown this Minnesota Exhibit 3, on the ground that there  
227 has been placed on that map a red mark, which is leading, and which tends to lead a witness, and in my judgment is about the worst kind of a leading examination that could be made—and I object to it.

The Commissioner: Go ahead, Mr. Witness, and answer.

Q. Have you the question?

A. Yes. When they went up the river, you say, to Fond du Lac?

Q. Yes.

A. Well, the most of the traffic went through what we call the short-cut; that is——

Q. And you have indicated with a pencil there?

A. Yes.

Q. Is it about the line marked A-E-G-B-D and then on up the southerly of Big Island?

A. Yes. If they had a boom of logs to tow they would tow down around this way. (Indicating.)

Q. That is, north of Big Island?

A. Yes, on account of that short elbow around there; that elbow there was too short a turn.

Q. When you say the elbow there, you are pointing to an elbow just southwesterly of Big Island?

A. It is southeasterly of Big Island.

Q. Is that right?

Mr. Fryberger: Let us look that up.

Mr. Hudson: It should be westerly.

Mr. Fryberger: I guess he is right. This map is not square with the world.

Q. You are pointing to the islands which appear next to Big Island and just below it on this map, are you, anyway?

A. Yes, sir.

Q. And you say the reason they took the boom of logs from  
228 north in such cases was because it was hard to make the turn there?

A. Yes.

Q. Was there another channel or course of navigation that was used to some extent southerly of the one you have just described?

A. Southerly would be—?

Q. Well, I mean starting over here. (Indicating.)

A. Yes; this is the route they took, here.

Q. You have pointed out a route passing through lines A-E-G—

A. Just north.

Q. I asked you southerly.

A. I was going to say north of Swampy Island, or Swamp Island we call it, in the bay.

Q. Probably you did not quite understand the question, and so I will ask another one. Supposing that one were starting or coming along by Grassy Point and going up to Fond du Lac and expected to pass north of Big Island; then what course would be taken from Grassy Point?

A. Well, you would take that same route I just described, through here. I would call that north of that swamp island. Yes.

Q. Now, the route that you have indicated is about on the line A-E-G-B-C and then from there on extending up along what is marked on the map as White tracing?

A. Yes, sir.

Q. And that goes north of Big Island?

A. No, not that white tracing.

Mr. Hudson: He did not mark that.

Mr. Bailey: I did not say marked; I said what was marked on the map.

229 Mr. Hudson: He did not testify to that. He went up to this point.

Witness: I went up to C.

Mr. Hudson: He only went up to C.

(The witness traces on the map.)

Mr. Bailey: Now you will find that my designation there fits.

Mr. Hudson: I object to the answer. He marks it now close to the shore.

Mr. Bailey: We will straighten that out. What I intended to indicate was the light-colored crooked channel from the point C, not the dredged channel. Is that sufficiently indicated? If you can make it better——

Mr. Hudson: Yes, along near the Minnesota shore; that is the way he points.

Q. Now just notice my question, Mr. Swenson. The one I asked you a little while ago we got mixed on. Supposing that you were passing Grassy Point, was there any other channel that was sometimes used for navigation that was southerly of this line A-E-G and B?

A. Southerly—that would be in this direction?

Q. Yes.

A. Well, that was not used very often; it could be used, but it was not used very often. I don't know that I ever noticed it, any more than boats, small boats.

Q. Well, there was a channel there that was sometimes used?

A. Oh, yes.

Q. The line that you pointed to as the line marked A-E and curving to the left and around to the point F?

A. Yes, sir.

230 Q. Approximately that. Now what was generally considered by people at the head of the lakes—what was commonly understood to be the mouth of the St. Louis River? Where was it?

Attorney-General Owen: That is objected to as incompetent, irrelevant and immaterial and calling for a conclusion of the witness.

The Commissioner: He may answer if he knows.

A. Well, where the river divides, at what they call the upper end of Big Island, where the river divides, where the current divided, the channel divided.

Q. What have you to say or what do you know, Mr. Swenson, with reference to the shifting or changing of the bottom out there in what is known as St. Louis Bay?

A. Well, I believe there was considerable shifting and changing; I could not say how much.

Q. Was there a considerable amount of stuff coming down the river? That is, I mean debris and——

A. Oh, yes.

Q. And such stuff as that?

A. Drift wood.

Q. Especially in freshets?

A. Drift wood and sawdust.

Q. What was that first you said?

A. Drift wood, and sawdust, and all kinds of rubbish.



Q. Well, there is a considerable amount of dirt coming down too, in solution in the water?

A. Yes.

Q. Now, Mr Swenson, calling your attention again to Minnesota Exhibit 3, do you know whether there was a bar just easterly of the point marked C on this map? Do you know whether there was or not?

A. Yes, sir.

231 Q. There was?

A. Yes, sir; there was shallow water there.

Q. Was this which appears on this map to be a sort of a blind channel, marked H, ever used to any extent with boats or traffic that was going up to Milford?

A. Not but very seldom, excepting when they went to Milford for logs or lumber or something like that.

Q. In my office this morning, in going over this with you, we were discussing where Milford was?

A. Yes.

Q. I see it is marked here on the map; I think that is correct, according to what you said this morning.

A. Yes.

Q. Is it?

A. This is Kingsbury.

Q. But this red here, that is supposed to be the word "Milford."

A. Yes, that is Milford, the red there.

Q. Where the red is and where the word "Milford" is; that is the right place?

A. Yes.

The Commissioner: You spoke about a bar there. When was that formed, do you know?

Witness: That I do not know.

Q. Was it there as long as you know anything about it?

A. Yes.

Q. Have you observed whether there were tides in these waters up as far as Ford du Lac, or not?

A. Yes, sir.

Q. Just state what you know about that, and what you have observed.

A. Well, regular tides, changing about every two hours.

Q. Continuously, the year round?

A. Yes, sir.

232 Q. About every two hours?

A. Yes, sir.

Q. What do you mean by that—that the tide comes up about every two hours?

A. Comes up for two hours and runs the other way for about two hours.

Q. To what extent?

A. I don't know how far a piece of driftwood would go, how far

up the river it would go when the tide was up, how far it would carry it up, but I know that it has carried me and a raft of cedar poles and a horse on for two miles up the river.

Q. How long did it take to carry you that far?

A. I forget. That is a good many years ago, away back in 1881.

The Commissioner: How much of a rise and fall would the water have?

Witness: That all depends on the winds. Now of course if it was a northeast wind the rise would be more than if the wind was from the west. But there is a regular tide back and forth. Now, for instance, where the Northern Pacific Railroad runs along the shore line up to Fond du Lac, there are small ponds or little lakes inside, with a culvert across the railroad, a narrow space for the water to run in and out. You watch it there; there used to be three different places between us and Fond du Lac; watch them about two hours, and the water would run in for about two hours and out for about two hours; never still only for a minute or so while it changed.

The Commissioner: The change goes on no matter which way the wind is?

Witness: The wind has nothing to do with it any more than when it is from the northeast the water does raise higher than it does otherwise, and I noticed it going to work; at six o'clock in the evening and at seven o'clock in the morning the tide would always be one way, a certain way, into those pockets, into those little ponds, through these railroad culverts; regular every evening and morning, morning and evening.

Q. You have given some particular attention to that matter, have you not?

A. Yes, sir.

Q. Lived right there on the shore of these waters all your life?

A. Yes, sir.

Q. Calling your attention again to Minnesota Exhibit 3 and to the lines of traffic that you have indicated, I will ask you whether the water in the main-traveled channel south of Big Island, which you have indicated, was as deep continuously as the water in the main-traveled channel north of Big Island, that is, the original channel?

A. I always thought it was.

Q. Did you consider it deeper?

A. I considered it fully as deep, and deeper than the other, but narrower.

Q. Do you know whether the level of the water up at Fond du Lac was or was not substantially the same as the level of the water in the main body of Lake Superior?

A. I do not know the difference. I don't suppose there is any, if very much, difference.

## 234 Cross-examination.

By Mr. T. T. Hudson:

Q. You lived up at Spirit Lake since what year?

A. The fall of 1870.

Q. The fall of 1870; where did you live before that?

A. Down at Oneota.

Q. How long did you live in Oneota?

A. From 1862; I was born in 1862; to the fall of 1870.

Q. You were born in 1862?

A. Yes, sir.

Q. Then you were eight years old when you moved to your present residence at Spirit Lake?

A. Yes, sir.

Q. You did not know much about the depth of water in the river up to that time, did you?

A. Well, no.

Q. Up to eight years old.

A. No.

Q. And you had not paid very much attention to the navigation of the St. Louis River up to that time, had you?

A. Up to what time do you mean?

Q. The time you moved up to Spirit Lake.

A. No; not any more than I noticed boats going by now and then.

Q. Those boats were small sailboats, weren't they?

A. There were some steamboats.

Q. What steamboats went by?

A. Well, there was one by the name of Kasota, and one by the name of George Frost and—well, I can't think of them. Yes, there were tugs, the tug Agate and the tug Amethyst.

Q. Was that prior to 1870?

A. Yes, sir.

235 Q. Those boats could go anywhere, where the water was six or seven feet deep, couldn't they?

A. Well, that I don't know; I do not know how much water they drew.

Q. You don't know how much water they drew?

A. No, sir.

Q. Did you have charge of the running of any boats?

A. No, sir.

Q. You never had charge of the running of any boats?

A. No, sir, not any; I never worked on a steamer.

Q. Did you ever take any soundings of the channel?

A. Not exactly with a feet rule or measure, that way, but I always had a pike pole to pull the logs around.

Q. Oh, you worked on logs, did you?

A. Oh, yes.

Q. On the river?

A. Yes, sir.

Q. And you simply poled logs around with a pike pole?

A. Yes, sir.

Q. Is that the only way that you got your knowledge of the depth of the water in the St. Louis River and bay?

A. Well, that and other ways, different ways, you know.

Q. Well, name what ways they were.

A. A man working around, poling logs around, he will find the water that way; maybe he is out fishing; he will probably sound the water with the fish pole, to see how deep it is, and so on.

Q. To see how deep it is; what do you mean by that?

A. Well, if he wants to set a net or a fish line, or something like that, he wants to know what he is going to fasten his pole with, whether it is going to reach bottom, and so on.

236 Q. But in doing that you never got the depth of the water at any place?

A. Not exactly by feet and inches.

Q. But you simply knew that it was deep enough for you to set a net?

A. Find out where the deepest water was that way.

Q. You did that work, did you not, at particular spots, where you wanted to fish?

A. Well, yes.

Q. Or where you wanted to move logs?

A. Yes.

Q. Did you ever attempt to get the depth of water in a continuous line from Grassy Point up to Fond du Lac?

A. Well, I have work along the whole river, from Fond du Lac to Grassy Point. I do not think there is a foot of ground in the bay but what I worked on. I picked up logs that were hung up on the bars, for the companies that owned them, and had (you might say) to use my pole all over; I could not move the logs or get anywhere without poling; had to be done by hand.

Q. Yes. But you do not mean to be so extravagant as to say not a foot of the bay?

A. I do not mean to say every foot, because that would be impossible, but there are very few spots but what I worked over.

Mr. Bailey: Stick a good many pike poles in since 1862.

Witness: Well, a good many years at it.

Q. Of course I knew you did not mean that.

A. Of course I did not mean that; but in common talk we use that expression.

Q. Mr. Swenson, I show you a map that is marked Wisconsin Exhibit 1, which is known as the George G. Meade map, and which shows the St. Louis bay and St. Louis River and Superior Bay and the waters of Spirit Lake, and also shows Fond du Lac. Now you tell me you are familiar with all of the waters from Fond du Lac down?

A. Yes, sir.

Q. And this map shows soundings in what appears, by the lines each side of a white space, to be a channel or a stream.

A. I don't understand you.

Q. This is the white space I refer to, and it shows figures and

183

soundings all the way down, between two lines that appear to make a stream, so far as the appearance on the map goes.

A. Yes, sir.

Q. And that commences just above Fond du Lac. Are you familiar with the George Meade map?

A. No, sir.

Q. Have you ever seen it?

A. No; I am not familiar with it.

Q. But you do say that you know every foot of water, the depth of water?

A. Well, I have been over them, yes; worked on them.

Q. Would you think that the depths shown by the figures in this channel or stream on this map are about correct?

A. I suppose they are correct; I have no way of knowing otherwise; that is, as to the exact depth.

Q. That is, when you did your poling, used your pike poles and fishing poles to find the depth of water, you know there is deep water where this channel is do you?

A. Yes. I tried to avoid deep water; I could not reach bottom with my pole; my pole was 16 feet.

Q. You knew it must be deeper than that if you did not reach bottom with your pole?

A. It probably was and probably wasn't; it was hard to tell.

Q. Did you find many places where your pole was not long enough?

A. There were places, up river.

Q. Following down this channel or stream that I have mentioned, to Big Island, you say that boats generally went through the narrow channel to the south of Big Island?

A. Yes, sir, that was it.

Q. But you say that rafts of logs went around to the west and north of that island?

A. Yes, sir.

Q. You have seen boats also go around there, haven't you?

A. Oh, yes.

Q. From 1870 down that was very often taken by the larger boats, wasn't it?

A. They took both routes.

Q. After Spirit Lake had a dock, was not this the one that they took mostly?

A. Yes.

The Commissioner: What do you mean by "this?"

Mr. Hudson: The north channel, the one around north of the island.

Q. That was one they took the most?

A. Yes.

Q. I will ask you to trace down with a pencil the route around on the north channel that the boats did take. We will start in here

at the south end of Big Island and follow the channel that is westerly of the Big Island.

A. I am not very good at tracing.

239 The Commissioner: You will have to speak up, Mr. Witness, so we can hear you.

(The witness traces on the map with a lead pencil.)

Witness: I cannot see very good. It is so much alike, the color of this—the color is so much alike.

The Commissioner: Maybe you can use this glass. (Handing a magnifying glass to the witness.)

Q. Try it with the glass. There is supposed to be the swampy island, I take it, that you testified to.

Mr. Bailey: What do you point there for?

Mr. Hudson: What?

Mr. Bailey: Didn't you point there, Mr. Hudson?

Mr. Hudson: No, I pointed there, to the Swampy Island that he was testifying to.

Mr. Bailey: That is not the Swampy Island.

Mr. Hudson: Isn't it?

Mr. Bailey: No; it is away down here, right there.

Witness: Yes; that is what I was looking for.

Q. I will ask you the question right here: Is the Swampy Island the island that you know as the Tallas Island?

A. No, sir.

Q. Oh, that is not? Then I am wrong about that.

A. No, sir. I am not used to handling maps. It is something like that. (Indicating.) I guess that is pretty close to it.

Q. Now, which side of Tallas Island did you go?

A. We went on the north side.

240 Q. I will show you another map now that shows that island a little plainer. This is Minnesota Exhibit 3 that I show you, and upon this chart is shown the present dredged channel, and on an island that is immediately north of the present dredged channel the letter K in red is shown. This island has been enlarged very much by all the waste taken from this dredged channel and it is extended out towards Spirit Lake?

A. Yes, sir.

Q. The Spirit Lake station. Now I want to ask you if when you passed that island that the letter K is marked on, the vessels went to the north of that island, or went to the south of it?

A. They went to the north.

Q. Then they went to the north of it. Then, you wish to correct your statement, do you, in marking Wisconsin Exhibit number 1 at that point, which is directly north of the island?

A. Well, I—

Q. You marked south of this island.

A. My intention was to mark north of that island.

Mr. Fryberger: Let him change it.



Q. Change it. You see the depth of water to the north of it there, don't you?

A. Yes.

Q. I want you to get it right.

A. I was afraid I was not doing it right.

(The witness examines the map with a magnifying glass.)

Mr. Fryberger: I would like to make a suggestion. Why don't you erase that line below there and avoid confusion?

Witness: There was a kind of a channel through here, was it, at one time?

241 Mr. Fryberger: I think the record ought to show that fact; that was south; here is the line to the south of Tallas Island? Wasn't that so, Mr. Hudson?

Mr. Hudson: Yes.

Mr. Fryberger: He has erased the line made south of Tallas Island?

Mr. Hudson: Yes, and has extended the line around north of Tallas Island.

Q. Now, going out from the point of Tallas Island, you notice a deep channel of water, do you not, marked in white?

A. Yes.

Q. With the letter H on it, on this map?

A. Yes.

Q. Did vessels take that channel down to Grassy Point?

A. They did sometimes, when they had lumber or logs to take out of Milford Bay.

Q. I will ask you to take your glass and look carefully at the soundings from right opposite the southern point of Grassy Point, in that channel marked H on Wisconsin Exhibit 1, and note the depth of the water shown in that channel.

A. Yes.

Q. You see it, do you?

A. Yes.

Q. The shallowest point until you get to the west end of that, where it joins the present artificial channel—

A. Yes.

Q. — is fifteen feet, isn't it?

A. Yes.

Q. Then following along to the west, to a point where the word "clay" appears on the map, you notice the figures 24 feet?

A. Yes.

242 Q. And then following that immediately is 15 feet of water?

A. Yes.

Q. Right in the direct line; in the lightest portion of that channel next is the figures 12?

A. Yes.

Q. Following on south in that same direction is the word nineteen feet?

A. Yes.

Q. Those appear to be the shoalest places in that, do they not?

A. According to these figures there, yes.

Q. According to these figures?

A. Yes.

Q. You have not any doubt but what this official map is correct, have you?

A. Well, it probably is. There was a shoal in there some place.

Q. Well, twelve feet would be more of a shoal than nineteen, wouldn't it?

Mr. Bailey: Eight would be more than that, wouldn't it, Mr. Hudson?

Mr. Hudson: Yes, eight would be more than that.

Mr. Bailey: You have two 8's in there.

Mr. Hudson: Yes, but he has marked another channel of seven feet that he has noticed, that he has passed.

Witness: Well, that is the route they generally took.

Mr. Bailey: Just a moment. What do you mean by that?

Mr. Hudson: Seven feet—

Witness: The route that I marked there.

Mr. Bailey: The route you marked.

Q. Goes through seven feet as marked on this map?

A. Yes, sir.

243 Q. Those two figures, 7 feet?

A. Yes, sir.

Q. 8 is even more than 7, isn't it?

A. Why, yes, sir.

Q. And 12 is more than 7?

A. Yes.

Q. Now, you say vessels went up here to Milford to load with lumber?

A. Tugs went up there with scows to take lumber away from there, and logs, tow logs.

Q. In this deepest water where it is marked as channel, or where it appears to be a channel, wasn't that a clay bottom?

Mr. Fryberger: Won't you locate it?

Q. I will locate now the deep water where H is marked over a channel.

A. Well, that I don't know, because I could not reach bottom with my pole.

Q. It appears so on this map.

A. That depth of water.

Q. It appears on this official map, doesn't it, the word "clay" at different points following the deep water?

A. Well, it might have been clay for all I know.

Q. Now, this shoal water—and I refer to shoal water as being 5

and 6 feet of water—what kind of a bottom did that have, outside of this channel?

A. Generally sandy bottom; some places it was mud.

Q. Some places it was mud?

A. Black mud they call it.

Q. Was that silt that was carried down the river and deposited there?

A. I suppose so.

Q. You spoke about driftwood filling up. As a matter of fact driftwood does not fill up a channel, does it?

A. Well, now I—

244 Q. Doesn't the driftwood follow to a shore and distribute?

A. I know one place there were sawdust and planing-mill shavings and sand and mud mixed to a depth of 7 to 8 feet. I will show you where that is.

Q. Yes, I wish you would.

A. Right in here (indicating); kind of an eddy, the current coming down here, and it settled in there; a person could sail in there with a sail-boat, and it was hard to get at—several acres.

Mr. Hudson: The witness points to a light space on Wisconsin Exhibit 1 that has several acres in it, and on the map the soundings are—

Mr. Bailey: Cannot you designate it?

Mr. Hudson: Just to the west of Big Island on the map, and quite close to the shore of Big Island. The soundings shown on that are figures 7 and 8 in numerous places?

Mr. Bailey: 5, 4 and 3.

Mr. Hudson: Well, those are lower down.

Mr. Bailey: Isn't it proper to put that in?

Mr. Hudson: 5 and 4—that is not where he pointed. He pointed to this light space here.

Mr. Bailey: Give us an idea where it was.

Witness: Well, it was right in here (indicating); it is there today, I suppose; I have not seen it now for six or seven years.

Q. Now, you say that was formed by an eddy?

A. I suppose it was an eddy; I don't see how it would settle there otherwise.

Q. Was that because the current of the river swung here  
245 around farther to the west following the channel?

A. Well, perhaps that was it; I don't know; but that has always been my idea that it is an eddy was the cause of the formation of it.

Q. But that formation is outside of the well-defined channel quite a distance, isn't it?

A. Outside of the new channel.

Q. Well, it is outside of the old channel as well?

A. Yes.

Q. Considerably east of the old channel, isn't it?

A. Yes.

Mr. Hudson: I think at this point, before we forget it, we will

have the reporter indicate on the record the course that you took from the south end of Big Island, showing where the channel was that was taken by vessels; and if you watch closely, Mr. Bailey, we will see if we can designate that.

Mr. Bailey: It is marked on the exhibit.

Mr. Hudson: Well, it is a pencil mark, and I think the reporter had better take it into the record. Commencing at the junction of what has been testified to as the south channel, the channel running east or south of the island, with the channel that runs west of the island, following in a westerly direction of the map a light course upon which figures of highest numbers are placed, and which are west of a line marked on Minnesota Exhibit 3 as L in red.

Mr. Bailey: Now let us see; is that true?

Mr. Fryberger: (After referring to Minnesota Exhibit 3) I think so. Yes, that is right.

Mr. Hudson: Continuing in this channel designated by the  
246 highest numbers in a northerly and easterly direction westerly of Big Island to the part of said channel which is directly north of what has been stated as Tallas Island and which is marked as K on Minnesota Exhibit 3; continuing in this same channel as shown by these highest figures in an easterly direction to a point marked C on Minnesota Exhibit 3.

Mr. Fryberger: Now why don't you put a red line down there, Mr. Hudson? Just do it yourself.

Mr. Hudson: We will have to use this map ourselves and I do not want it subject to the objection we are making to your map, as leading; you might spring that objection on us.

Mr. Bailey: I think it is as objectionable to have pencil marks as it is to have a red line.

Mr. Hudson: This pencil mark can be taken off.

Mr. Bailey: You are not going to take it off after he has described it.

Mr. Fryberger: We do not intend you shall.

Mr. Bailey: Not if we know it.

Mr. Hudson: Well, that is C; I think that is correct; that is this point. We have been following this down here to C, following this old channel: this is K; to C.

Witness: Yes.

Mr. Hudson: Then following the water which on this map is indicated by the figures 7, 8, 9, and 10, in an easterly direction  
247 to a point where the figure 24 in the deep channel is.

Mr. Bailey: Just southwesterly of Grassy Point.

Mr. Hudson: Southwesterly of Grassy Point indicated on Minnesota Exhibit 3.

Mr. Fryberger: As the letter B.

Mr. Hudson: As the letter B.

Mr. Fryberger: No, I guess it is farther down than that.

Mr. Bailey: Yes; it is away down in here.

Mr. Hudson: Oh, A.

Mr. Fryberger: Yes.

Mr. Hudson: Let the record show A instead of B.

Q. Now, Mr. Swenson, that is what you want to indicate as the channel that the larger boats took down from the south end of Big Island to the south end of Grassy Point?

A. Well, the larger boats take either route, through the short-cut or through around west of the island.

Q. Isn't it a fact that this is very much the deeper water?

Mr. Bailey: Which?

Mr. Hudson: In this old channel, around west of the island, and the channel wider.

A. It is wider.

Q. Wider?

A. But I don't believe it is any deeper.

Q. Well, there is a point I show you there, 24 feet.

A. Yes.

Q. And 26 feet, and 27 feet, and 25 feet. Can you find any figures as high in the other channel on this map, on the south channel?

248 Mr. Bailey: That is not quite what you asked him, Mr. Hudson, it seems to me.

Mr. Hudson: Will you repeat the question, Mr. Reporter?

Mr. Bailey: You asked him about the channel as a whole.

Mr. Hudson: Oh, the channel as a whole.

Mr. Bailey: You are pointing out pot-holes now.

Witness: That is the way I took it.

Mr. Hudson: I will withdraw that question. I do not think it is important anyway.

Q. Now, Mr. Swenson, this south channel, or the channel south of the island, was a very much shorter channel or shorter distance, wasn't it, from the south end of the island to Grassy Point, than it was going away around the old channel to the west of the island?

A. Yes, sir.

Q. And the boats that they used in those early days never drew more than 7 or 8 feet of water, did they—6 or 7 feet?

A. I don't suppose they did.

Q. And they could get through wherever there was a depth of water of 6 or 7 feet, couldn't they?

A. I don't believe they could get through 6. Probably they could. I don't know what water they drew.

Q. Well, seven or eight feet.

A. I don't know how much water they drew.

Q. And they took that route because it was the short route; wasn't that the chief reason for taking it?

A. I suppose so.

Q. It was the short route. Now, when you get down here  
249 to near Grassy Point and from the point that was marked C to A on Minnesota Exhibit 3, the shortest route there is the route that you have described on this map with a pencil, isn't it?

A. Yes, sir.

Q. And that shows depth of water 7, 9 and 10 feet, doesn't it? 7, 9 and 10 feet (pointing on the map).

A. Yes.

Q. And that route was taken largely because it was the shortest distance, wasn't it, across there, and the boats that went over there did not draw any more than 5 or 6 feet of water, or 7 feet?

A. I suppose so.

Q. Well, isn't that a fact?

A. I have no way of knowing the reason why they did it.

Q. You simply know they did do it?

A. Yes; I have seen them go, I have seen them do it, and I knew they did it, and the reasons they had for it I didn't know.

(A short recess was here taken.)

Cross-examined by Mr. Gard:

Q. Mr. Swenson, when did you say you begun to navigate these waters here in question?

A. When did I begin?

Q. Yes.

A. You mean the first time I was out in a row-boat?

Q. Yes; you may tell us as nearly as you can; we do not expect you to tell exactly.

A. I was perhaps three or four years old.

Q. Yes; and then you were out in a row-boat more or less, I suppose, when you were a boy?

A. Yes, sir.

Q. And your row-boat of course did not draw much water?

250 A. No.

Q. And you went anywhere you wanted to go on the bay?

A. Yes, sir.

Q. And you did not try to follow channels of course?

A. No, sir.

Q. Did not have to follow channels?

A. No, sir.

Q. And how long did you navigate in row-boats?

A. How many years?

Q. Yes.

A. Well, up to the present time, more or less.

Q. You have always navigated in row-boats, haven't you? Did you ever have any other kind of a boat than a row-boat?

A. I never owned anything else; no, sir.

Q. Did you ever run on any other kind of a boat? I believe you said you did not.

A. I never worked on them, no; I rode on them.

Q. What boats did you ride on up the St. Louis?

A. Different ones, tugs and boats and launches.

Q. Never worked on them, though?

A. No, sir.

Q. Just as a pleasure trip, or what? How did you come to be on them?

A. Yes; or, for instance, I had logs to tow down to the mill; I would go along with them, and so on.



Q. Did you have logs to float down to the mill from your present residence?

A. Yes, sir.

Q. When?

A. Back in the '80's.

Q. And you went around the north channel of Big Island, did you, when you towed the logs down?

251 A. Yes, sir. Well, I didn't have any to tow from above Big Island.

Q. I did not get that.

A. The logs I had to tow, we didn't have to come from Big Island with them, down the river.

Q. Where were they?

A. They were in Spirit Lake and along on the Minnesota side where I live, around where I live there.

Q. And of course in taking logs you took the nearest course that you could take, where there was no obstruction, didn't you?

A. Yes, sir.

Q. Did you ever tow logs, or pole logs?

A. Yes, sir.

Q. In poling logs you wanted to keep out of the channels, didn't you?

A. Well, I didn't want the deep water; I wanted water enough to float them without grounding.

Q. How much water does it take to float logs?

A. It all depends on their size.

Q. The logs that you poled, how much water did it take to float them?

A. I would want three feet of water.

Q. That was all that was necessary?

A. That was all that was necessary.

Q. And you would go anywhere that there was three feet of water?

A. Yes. Sometimes occasionally with a big butt I would want a little more, but very few logs we needed deeper water.

Q. And you took the most direct route you could take to get to your destination, didn't you?

A. Yes, sir.

Q. Now, when you rode up and down the river in your boat, you took the nearest course, of course, didn't you?

252 A. I did, unless I was trolling or fishing or something like that.

Q. And then you were going to the fishing ground, wherever that was?

A. Well, of course we fished all over. When the fish would not bite in one place we would try another.

Q. Now, Mr. Swenson, you said that you did not know of logs being towed south of the Big Island; did I understand you to say?

A. Oh, there were a lot of logs towed, millions of feet towed from Fond du Lac down.

Q. South of Big Island?

A. Yes, around the Big Island.

Q. On the south, through the south channel?

A. You mean the west channel.

Q. Well, the west channel.

A. Around the west side of Big Island, towards the Minnesota shore, you mean?

Q. No, I mean south, nearest the Wisconsin shore.

A. What we call the short-cut?

Q. Yes, the short-cut.

A. Well, I don't know—yes, they did tow logs through there, but I suppose that was because they had to. There was a time when a lot of logs came down the river; the boom broke at Cloquet. They stretched the boom across the channel from Big Island over to the Minnesota side, south, straight across, and sheered them into this short-cut channel and held them there until they could sort them and boom them up. I don't know of towing any rafts there otherwise, outside of that.

Q. Don't you know there were boom logs in the vicinity of the Devil's Elbow, placed there to keep them in the right place?

A. Well, that is what I was thinking of now, what I was  
253     testifying about now.

Q. There were logs towed through there?

A. That was one season that happened; I worked on that; that happened because the logs broke away from Cloquet, broke and came down the river. The mill company's boom broke at Cloquet, and to save them from going into Lake Superior they stretched a boom across the channel from Big Island, across south, straight across, to what we call the meadow, so they had to turn in to the short-cut channel, and they stretched the boom across the lower end of that and held them there until they sorted them; had a sorting gap and sorted them. I worked there two weeks, sorting logs; it took about two weeks, I think. That is the only time I know of logs being there.

Q. You say that was at the south of Big Island? You mean north of Big Island, don't you?

A. No, sir.

Q. South of Big Island?

A. Yes. Where they had the sheer boom?

Q. Yes. No, not where they had the sheer boom, but where the sorting of logs was.

A. That was on the east side of Big Island.

Q. On the east side?

A. Yes.

Q. In which channel?

A. In the short-cut channel, what they call the short-cut, on the  
east side of Big Island.

Q. Where did they have the boom across the channel?

A. On the south, right about where Whiteside's house is now.  
Well, right from the elbow, right from the elbow, across.

254     Q. I see. There is a good deal of water comes down the St. Louis River in the spring, isn't there, Mr. Swenson?

A. Yes, sir.

Q. And there is considerable water comes down the St. Louis the year round, isn't there?

A. Well, especially after heavy rain.

Q. Well, there is always considerable water flowing in the St. Louis, isn't there?

A. Yes, sir.

Q. But in the spring of the year there is high water, isn't there?

A. It all depends on the amount of snow of course that we have in the winter.

Q. Yes, but you usually find high water in the spring of the year, don't you?

A. In the olden days the lumbermen always figured on the June freshet for the most water; that is the time they drove their logs.

Q. And there was usually high water then?

A. High water in June.

Q. And there is a current all the way down the river, isn't there?

A. Yes, sir.

Q. Are you familiar with the waters all the way down to the natural entry?

A. To some extent, yes.

Q. You know of that current continuing all the way down, don't you, to the natural entry?

A. Yes, sir.

Q. And that follows the channel, doesn't it, as near as you could observe?

A. Well, I happened to be on a raft of logs that broke away—I think it was the spring of 1880; Miller's boom broke at  
255 Thompson; about a million feet came down; and the ice was not out of the bay yet, and the logs came down. We started to try to make a boom around them, out of logs and chains, up south of Big Island. They forced their way through the ice ahead of them, and went through the entry, between Rice's Point and Connor's Point, and when they got through that entry they turned to the left for the Duluth entry. We left Grassy Point, if I remember right, in the morning, and at noon we had our dinner on Minnesota Point. They turned to the left, they turned to the Duluth entry.

Q. That was after the channel was cut through Minnesota Point?

A. Yes, sir.

Q. At Duluth?

A. Yes, sir. And we could not get the boom around, we could not get the boom made around them, they kept zig-zagging and working around them, so we could not get the boom. They stretched scows across the Duluth canal to hold them from going in the lake. In the morning when we woke up the scows were gone and the logs were gone, out of sight, out in the lake. The ice was gone. The ice was hard up to the shore in the evening, and in the morning it was gone, and the logs. That is the route the logs took that time. I think it was the spring of 1880.

Q. Spring of 1880?

A. 1880 or 1881.

Q. And where did you find the logs?

- A. Well, I don't know how many they found of them; I don't suppose they found very many or saved very many of them.
- 256 Q. Then you did not have any doubt about there being a current all the way down?
- A. Oh, there was current, yes.
- Q. And there is a current all the way down to the entry, whether it is the Duluth entry or the Superior entry, isn't there?
- A. There must be.
- Q. Yes. And sometimes that current is disturbed by these tides you speak of coming in?
- A. Well, they are regular tides.
- Q. That is regular rising and falling of the water?
- A. Yes, sir.
- Q. You think it raises about two hours?
- A. About every two hours.
- Q. And then falls about two hours?
- A. About every two hours, as nearly as I can judge.
- Q. But you don't know of any regular tide that occurs each day caused by the sun, the attraction of the sun, do you?
- A. I do not know what it is caused by, but there is a tide I know.
- Q. That is the every four hour tide you speak of?
- A. I don't know what you would call it.
- Q. I say it is a tide that goes up for two hours?
- A. It will go up for two hours and then come down the other way every two hours.
- Q. Were you familiar with the current of the St. Louis River before the Duluth canal was cut?
- A. Well, I was pretty young when that was cut.
- Q. You were not familiar with the current out to the
- 257 natural entry, then, before that was cut?
- A. No.
- Q. Those logs that you speak of floated down from where?
- A. These logs that went into Lake Superior?
- Q. Yes.
- A. From Thompson.
- Q. Where is Thompson located?
- A. That is where the dam is now, the Power Company's dam is now.
- Q. They were put in the river there?
- A. The boom broke and the logs got away, came down the river, and they went into Lake Superior.
- Q. How long were you bringing them down?
- A. Well, I think we left Grassy Point in the morning; just about half a day from Grassy Point to—well, we got out in what we call Duluth bay or Superior bay, right between the two, right out at the Interstate bridge at noon, and we got out so we got pretty close to Minnesota Point, and we went ashore and had dinner there—I remember it well; they kind of slacked up there and did not go so fast.
- Q. Were they being carried by the current?

A. Yes, sir; forced the ice ahead of them, broke the ice ahead of them; the ice wasn't quite off.

Q. Oh, they were breaking the ice ahead of them?

A. Yes.

Q. And there was no power there to propel those logs down except the current?

A. No, sir. There was a heavy current at that time, a lot of rain; caused a heavy current.

Q. In your experience in the waters in question, you know that there was quite a deep channel, do you not, between Grassy  
258 Point and the Wisconsin side?

A. Yes, sir. I worked here in what we call the middle grounds; as we call this shallow water right along here.

The Commissioner: Referring to what, Mr. Gard?

Mr. Gard: Referring to what is marked "mud" with surroundings  
5 feet, usually, opposite Grassy Point.

The Commissioner: On what map?

Mr. Gard: On Wisconsin Exhibit 1.

Q. Now go ahead, Mr. Swenson.

A. Some of these logs I was telling you about going down to Lake Superior, the large ones, hung up on this middle ground here, quite a number of them; worked there about two weeks, three of us there to roll them off after the rest had gone on into the lake, and saved them. We came over here on this point here. (Indicating.)

Q. That is the point on the Wisconsin side, opposite Grassy Point?

A. Yes; the channel is close up to the bank there.

Q. You mean the Wisconsin bank?

A. Yes.

Q. Now, I want you to follow what you consider the main channel of the stream up the river from that place.

A. Well, what I consider—I don't know—what do you mean?

Q. I want what you call the main channel of the stream.

A. Well, now, I don't know which would be the main channel, this channel here, this short-cut, or the other.

Q. Well, where is the deepest water?

A. I consider the short-cut fully as deep as the other.

259 Q. Before you get up there, follow what you call—

A. I always considered it so.

Q. What do you consider the main channel from Grassy Point here, upward? (Indicating.)

A. Well, I don't know which I would call the main channel.

Q. As a matter of fact was not the channel here that is marked  
H commonly known as the main channel?

A. No—

Q. What?

A. I don't know as I ever had that pointed out to me definitely as a main channel.

Q. Well, it is quite a channel, isn't it?

A. There is a channel there, yes, but there is a shoal over here, you see.

Q. But don't you know of that being referred to as the main channel?

A. No.

Q. What channel do you know as being referred to as the main channel—any channel?

A. Well, I—I don't know how to answer that.

Q. Did you ever hear any channel being referred to as the main channel?

A. Of course this channel down here was always considered the main channel.

Q. You are pointing now north of Big Island?

A. Yes.

Q. Going north of Big Island you considered that the main channel?

A. Yes.

Q. And you say you know of——

A. Down here—I don't know which was the main channel down here.

Q. You know it is the deepest, don't you?

A. What is called the main channel?

260 Mr. Bailey: You are pointing about to this Swampy Island in there?

Witness: Yes.

Q. You say you don't know which is the main channel?

A. No.

Q. You know which is the deeper, don't you?

A. Run both ways, this way and that way, but mostly this way (indicating).

Q. That is mostly the short-cut?

A. Yes, when they wanted to go into Milford and Keen's creek for logs.

Q. Now, Mr. Swenson, you know that boats went up this channel marked II and went around the north channel, what you call the main channel north of Big Island, don't you?

A. Yes.

Q. And they frequently went around that channel II?

A. Yes; they could.

Q. And continued in the north channel around Big Island, didn't they?

A. This is the route.

Q. Now just answer the question.

Mr. Bailey: Let him answer.

Q. What is your answer to that question?

The Commissioner: Read the question, Mr. Reporter.

Q. Just let me ask it again. You know that boats frequently went through this channel 8, and then around the channel north of Big Island, up past Spirit Lake?

A. Yes.

Q. And they all went through that channel, didn't they, when they went to Milford?



A. Yes. They couldn't go to Milford very well any other way without crossing those shoals there; see? They could not get there any other way.

Q. And as a matter of fact the travel with boats over these waters here between Grassy Point and the island in the early days, was by small boats, wasn't it,—the navigation?

A. Well, there were very few large ones.

Q. Yes; and they went anywhere they wanted to go, didn't they?

A. Yes.

Q. And they were not particular about finding channels, were they?

A. No, I don't suppose they were.

Q. They took the shortest cut, didn't they, usually?

A. Well, that would be natural of course.

Q. Yes. Did you often observe boats going up and down the St. Louis when you were on these waters here?

A. Yes, sir.

Q. What boats do you particularly——

A. Of course there were not boats every day; there were probably weeks between boats, months sometimes, you know—sailing boats.

Q. There were?

A. Yes.

Q. What time do you refer to?

A. For instance, back in the '70's and the '80's. Now the most of the boats that they run there then were tug boats, towing logs.

Q. Was there a good deal of towing done at that time?

A. There was a lot of logs, millions of feet of logs towed down the river from Fond du Lac; yes, sir; for several seasons.

Q. One of the witnesses testified that he did not go through that channel marked H in towing logs because it was a circular channel and the logs would hit the shore.

262 A. Well, with long rafts; they had one, two and three rafts, sometimes, behind the other, probably stretched out half a mile. You know in making a circle they would——

Q. Get ashore?

A. Crowd up on the point, on the shore, and they would have a hard time getting them off, they would hang up.

Q. That is probably the reason they did not take that channel H very much, isn't it?

A. Well, that is what I believe.

Q. Because it is circular. The other channel you call the cut-off there, one of the cut-offs, would be a straight channel, wouldn't it?

A. Where do you mean?

Q. I mean from, oh, in the vicinity of Tallas Island down——

A. Comparatively straight, yes.

Q. To Grassy Point?

A. Yes.

Q. Comparatively straight?

A. Yes.

Q. And they could tow logs down there easier than they could go around the curved channel?

A. Yes, sir, sure.

Q. Now, I didn't understand where it was you said you considered the mouth of St. Louis River. I want you to tell me just what you consider the mouth of the St. Louis River.

A. At the Elbow here.

Q. That is at Devil's Elbow, what you call the Devil's Elbow?

A. Yes.

Q. That is at the——

Mr. Bailey: Southeasterly end.

263 Mr. Gard: Yes, the southeasterly end of Big Island.

A. It is a little easterly of the end of the island, a little easterly—southeast.

Q. Where the currents divide, one of them going northerly and the other southerly of Big Island?

A. Yes.

Q. In other words, it is above Big Island that you consider the mouth of St. Louis River?

A. Yes, sir.

Q. When you lived at Oneota do you remember of their always calling it "going up the St. Louis River," going up these waters?

A. If they were going as far as Fond du Lac, why, they would say "going up the river, up to Fond du Lac," or if they were going up to Milford or up as far as the Big Island, why——

Q. They said, "going up the St. Louis River?"

A. Going up the bay.

Q. Didn't they say "going up the St. Louis River?"

A. No.

Q. Never heard that?

A. No. That was commonly called the bay, "going up the bay—going up the bay—going up the bay."

Q. And you never heard that called the St. Louis River, did you?

A. Not down below that, no.

Q. Never heard it called the St. Louis River?

A. No, not that I remember.

Q. When you floated those logs down there, didn't you consider you were floating the boom on the St. Louis River?

A. I don't know as I thought of river or bay or lake or anything else.

Q. As long as you had a current?

A. As long as the logs were moving.

264 Q. You had to have a current though, didn't you, to float them, or they would not float?

A. Oh, no, not necessarily have to have a current. Sometimes we had to pole logs against the wind.

Q. Yes, but you said the current carried them out that time, didn't you?

A. What logs do you mean?

Q. When you took those logs out to the Duluth entry.

A. Oh, the current, yes; that particular batch of logs, yes.

Q. Yes; the current took those out?

A. That was kind of a flood that spring, heavy rains caused so much water that it broke the mill dam, and of course that made a heavy current down the river and the bay.

Q. Mr. Swenson, as a matter of fact, the light draught boats now mostly go south of Big Island or follow what you call the cut-off channel, don't they, in going up the river?

A. Why, I suppose so. Of course those small boats we cannot see much of them from where I live. Of course these pleasure boats, gasoline launches and small boats, they naturally take the short-cut when they come from Duluth and Superior, going up to Fond du Lac. A good many of them come our way, around our side of the island. But I believe more of them go on the other side.

Mr. Bailey: That is the south side?

Witness: On the east side.

Mr. Bailey: The east side.

Q. You mean by that the short-cut?

A. Yes.

Q. That is because it is nearest, isn't it?

265 A. Yes, I suppose so—and fine scenery along through there.

Q. Now, so far as you know, the same reason for taking the short-cut with light draught boats prevailed more in the '70's and in early days than it does now, didn't it?

A. Yes, sir.

Q. In fact there is now more reason for them going around the other channel, because that is dredged now, isn't it?

A. Which?

Q. The northerly channel, the long channel around Big Island.

A. That is shortened some, straightened out and shortened.

Q. Well, it is deeper—it is deep water all the way, isn't it?

A. Oh, yes.

Q. And still they go south of the island, don't they?

A. Yes.

Q. Because it is a short-cut?

A. Yes.

Q. And the same reason prevailed to take them through the short-cut when you were a boy that prevails now, doesn't it?

A. Yes, I suppose so.

Q. You don't know of any different reason, do you?

A. No. I don't know of any different reason.

Q. Did you handle a sail boat very much?

A. I used to; not lately; I used to have a sail boat.

Q. Light draught boat, I suppose?

A. Yes, sir.

Q. How much water did it draw?

A. Oh, nine inches to a foot; hardly a foot; about a foot of water I should say.

## Re-direct examination.

By Mr. Bailey:

Q. Just a question, Mr. Swenson, about this Tallas Island. Was there anything of that in the early days when you first knew it?

266

A. Tallas Island?

Q. Yes.

A. Yes, sir.

Q. Did it enlarge thereafter, spread out?

A. No, sir.

Q. What?

A. No, not only what is called artificial; that was dredged and filled in by a dredge.

Q. Was that formed mostly of sand, or what was the substance that formed it?

A. Sand and mud, overflow of the river, I suppose.

Q. Mostly sand and mud?

A. Sand and mud.

Q. Mixed?

A. Mixed; driftwood mixed on the surface.

Q. Do you know from tradition, or otherwise, whether there was a time within the memory of the earliest inhabitants when there was not anything that appeared above the surface at that point?

A. Well, that might be. The water might have had some effect on it. I know now the river has changed a good deal since I first remember it—the river banks.

Q. A good deal of shifting up there?

A. Yes, sir, especially up above, farther up.

Q. Well, was there in that vicinity of Tallas Island a good deal of shifting?

A. Well, of course you cannot notice there so much as you can farther up, it was so low down there; the marshes were low.

Q. The island itself, the surface of the land part, was not much, if any, above the level of the water?

A. It was very little above; it was some above.

Q. It was of marshy character?

267

A. The center, near the river bank, channel bank, was high, and sloping away back, and the outside was low.

Q. In cases of high water at that point, that is, when there were freshets in the spring, and so forth, a good deal of it was submerged, was it not?

A. Yes, sir.

Q. So that there was very little of it that appeared above the surface in times of freshet?

A. Yes, sir.

Examined by Mr. Fryberger:

Q. I want to ask a question or two. I want to clear up the matter about those logs that came down in the spring of 1880 or 1881. Which was it?

- A. Well, I am not sure which; either 1880 or 1881.
- Q. Were they the A. M. Miller logs?
- A. Yes, sir.
- Q. He had a mill at Thompson, did he not?
- A. Yes, sir.
- Q. And what time of the year was this?
- A. This was early in spring.
- Q. Early in the spring. Was there a very heavy rain at that time?
- A. Yes; yes.
- Q. Flood?
- A. Yes.
- Q. And what happened to his booms?
- A. Why, he had a dam up there and the dam broke.
- Q. Thompson is about a mile or a mile and a half this side of Carlton, isn't it?
- A. It is just where the Power dam is now.
- Q. Just where the power dam is now?
- A. Yes.
- Q. The Northern Power Company's dam?
- A. Yes, sir.
- 268 Q. This tremendous flood caused the dam to go out?
- A. That is what Mr. Miller said.
- Q. Yes. And the whole flood came down at once and brought the logs and the boom?
- A. Yes, sir.
- Q. How many million feet were there?
- A. I don't know as there was more than a million feet. If I remember correctly it was about one million feet.
- Q. The only thing, as I understand it, that you had to do with those logs was that you worked as a river man in getting those logs together to save them from going out in the lake?
- A. Yes, sir.
- Q. And worked on them several weeks, did you?
- A. Yes, sir, I worked after the logs went into the lake; after the main part went into the lake I helped gather up those that were standing on the shore.
- Q. What did they do with those logs?
- A. I forget what he did do with them.
- Q. Those logs were not being towed by you or anybody else?
- A. No.
- Q. They got away; they were run-away logs?
- A. Yes.
- Q. Now, the other rafts that you spoke of, that you got out near your house, were logs you were bringing down?
- A. What batch is that?
- Q. The other logs that you spoke of.
- A. What I put in myself?
- Q. Yes.
- A. Yes.
- 269 Q. Where were you taking them?
- A. I took them off different tracts of land.

Q. Where were you taking the logs?

A. We sold the logs to different parties, Payton and Kimball and Barber and others.

Q. And delivered them at the mills?

A. Why, sometimes we did, and sometimes we sold them and delivered them on the spot.

Examined by Mr. Gard:

Q. When was it this dam broke with reference to the time you were down here in St. Louis Bay? How long before that had the dam broken?

A. This Miller dam at Thompson?

Q. Up there at Thompson, yes.

A. It would not be very long; it would not take the logs very long to come down.

Q. It was not the same day that it broke that you were out in St. Louis Bay?

A. I don't recall. Anyhow they had time enough—no, the Miller batch came down in a bunch, and he gave us a lot of chains and staples and we tried to make a boom around the batch of logs, out of sawlogs, short sawlogs.

Q. Was it the Miller logs you got off of that shoal water up there on Grassy Point?

A. Yes, sir.

Q. You spent some time there getting them off?

A. Yes, sir.

Q. And then it was after that, was it, that you floated them down to the Duluth entry?

A. No, no. The main batch kept going right down. We followed them down till they went into the lake, and then after that we started to pick up those that were stranded on the marshes, along where the water was so shallow that the larger logs were hung up.

270 Q. Where was it that you first went working on the logs, what point of the river?

A. It was somewhere, as I recollect, right north of Big Island.

Q. Big Island?

A. Yes.

Q. And how long did it take them to get down in to St. Louis Bay from there?

A. I know that in the morning we left Grassy Point—oh, I don't know; about eight o'clock in the morning we were there, just east or north of Grassy Point, and by noon we had got through the entry between Rice's Point and Connor's Point, right where the Interstate bridge is, and out in the bay.

Q. How long before that, before you started from Grassy Point with them, was it that you had taken charge of them or had gone on the work up in the vicinity of Big Island?

A. Yes, somewhere in there that I started to work on them.

Q. Yes. How long before they got down to Grassy Point?



A. Did the dam break?

Q. No, I want to know how long it was that you took charge of them.

A. Well, I did not have charge of them.

Q. Well, before you went on the work there.

A. I was just a workman. I think I started the day before.

Q. The day before?

A. Yes.

Q. And the logs were, the most of them, in the vicinity of Big Island at that time, were they, when you started?

A. They all came together, all in a bunch; they were packed together in a bunch.

Q. Did they go north or south of Big Island?

271 A. Well, they went north of Big Island.

Q. North; all of them?

A. Yes.

Q. You don't know how long they had been floating down from Fond du Lac, in that vicinity, do you?

A. No, I do not know, but it could not have been very long.

Q. Well, it was a day or two, wasn't it?

A. Oh, no, I don't think so. I think they had come down in five or six hours.

Q. From—

A. From Thompson.

Q. From Fond du Lac; in five or six hours you think they would be down to where?

A. Probably ten hours.

Q. What?

A. Probably ten hours.

Q. At what vicinity would they be in ten hours, do you think?

A. Well, I could not say exactly, but coming down the rapids it would not take them long to get down to Fond du Lac.

Q. No. I understand that; but after they reached Fond du Lac.

A. They would go the way the water was at that time; the current was pretty swift; they would come pretty nearly as fast as a man could walk.

Q. Was it a common thing in early days for them to float logs down the St. Louis?

A. No, sir. They did it for one or two seasons, I believe, after they improved the river; they improved the river some, blasted out some of the larger boulders and improved it some; they did some of it; some driving down the river; not very much, though, I don't think.

Q. Did these logs spread out very much, or did they hang pretty close together?

A. They hung close together.

272 Q. What kept them together?

A. They encountered the ice. The bay was not open yet; the ice was rotten, but it was not quite open, and they kept together in a bunch; we could walk on them and step from one to the other; they were packed just as close as could be, but we could not get the

boom around. We kept working. We probably had half a mile or more of boom, maybe a mile, but we could not close it.

Examined by the Commissioner:

Q. Mr. Swenson, what is there in the river up above Grassy Point to mark out to the eye the shallow or deep places, if there is anything?

A. What we went by was the rushes; the shallow places were covered with rushes. After the rushes grow up in the spring of the year it is hard to find the channel.

Q. What time of the year do the rushes get their growth, come up through the water?

A. As soon as the water begins to warm up a little they begin to grow and show themselves.

Q. Would they be full-grown by the first of August?

A. They would be full-grown by the first of June, or middle of June anyhow.

Q. Then the deep places would not have any rushes growing up in the water?

A. No.

Q. But they would grow in the shallow places?

A. Yes.

Q. Now let us go back to 1880. You at that time were a young man, about 18 years of age, weren't you?

A. Yes, sir.

Q. Now, there were tugs up and down here in these waters at that time?

A. Yes.

273 Q. About how much water did they draw, do you know?

A. Well, that I do not know; I do not know what they drew.

Q. There is some evidence here that they drew 5 and 6 feet, ordinarily.

Mr. Gard: Some of them.

A. Maybe.

Q. Suppose that in 1880 I was a stranger, and we will suppose I came here to Duluth with a yacht drawing 6 feet of water, and I met you and asked you if you were acquainted with the river, and you said yes; and I said, "I want to go up to Fond du Lac with the yacht". You said you would go up as far as Grassy Point, and I said I would be glad to have you come. Now I ask you how I could get up to Fond du Lac and follow the channel. What direction would you give me?

A. Well, I don't know as a man could direct anybody for any length or distance, and be understood.

Q. What is the reason?

A. Well, it would be a pretty hard thing to do, pretty hard for a person to understand.

Q. Could you make a stranger understand?

A. I know it would be pretty hard for me to understand if somebody undertook to tell me how to go.

Q. Suppose I had aboard this Meade map here; you have seen that.

A. If you had a map along?

Q. We will suppose I had aboard the Meade map. Could you tell me on that how to get up there, with the map?

A. Well, I suppose so.

274 Q. What direction would you give me to keep in the channel around the Big Island? What would you tell me if I was going up there past Big Island. I would ask you how I would keep in the channel. What would you tell me?

A. If I would have the map to show I could tell you.

Q. Would there be anything from the reeds or rushes that would guide me?

A. Why, no. That would be hard unless you were acquainted; it would be hard to tell the difference, to tell one from the other.

Q. Now, you have told me, we will suppose, there were two channels around Big Island, and I a stranger would ask you which one to take, which would be the easier for me to go up.

A. Well, the easiest, one, the shortest one, would be the east channel, east of Big Island; that would be the shortest.

Q. Now, I would ask you which is the safest. Which would you tell me?

A. One would be as safe as the other, only around the Elbow is a short turn. It would be safe enough to go with a tug.

Q. Suppose I said to you, "I am a stranger up here and want to get the easiest channel to navigate, to get around Big Island." What would you tell me?

A. Drawing how much water?

Q. 6 feet.

A. I don't know as there would be any difference one way or the other, outside of the Elbow; I don't suppose there would be anything to make any difference, one side of the island or the other.

Q. Now I would say to you that I want to get to Fond du Lac, and after I get above the island, what shall I steer by?

275 How do I know I am in the channel? What would you tell me?

A. Well, I could not—

Q. Could you tell me anything?

A. It would be pretty hard for anybody to tell by the rushes. The rushes are all alike, you might say, and there are openings or pockets between bunches of rushes and even to one side and all, one direction and another. That would be a very hard thing, for a man to direct a person by the rushes.

Q. Could he work his way up by the map, do you think?

A. He could with the map, sure.

(A recess was here taken until two o'clock P. M.)

## Afternoon Session.

*Stipulation.*

Mr. Bailey: It is stipulated that the so-called Tallas Island which is marked on Minnesota Exhibit 3 by the letter K, and the piece of land (or whatever it is) marked "Sand" and designated on that exhibit as L, with the pieces of land or sand (or whatever they are) between K and L, were never surveyed or patented separately from Big Island, shown on said map from the main land of the Minnesota shore, by the United States government.

The Commissioner: Is that stipulation agreed to?

Mr. Hudson: It is so stipulated by all concerned.

Mr. Bailey: Yes.

276      GEORGE F. KELLY was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

## Direct examination.

By Mr. Hanitch:

Q. Mr. Kelly, you reside where?

A. Superior, Wisconsin.

Q. How long have you lived there?

A. Little over seven years.

Q. What is your business?

A. Abstractor of titles.

Q. And have been in that business how long?

A. About fifteen years.

Q. Are you familiar with the records of Douglas County, Wisconsin, relating to the titles of land on St. Louis Bay and St. Louis River?

A. Yes.

Q. Do you know when the dock line was established on the Wisconsin side in the St. Louis, upper and lower bay?

A. It was established in the year 1899 and approved on the 17th of November of that year.

Q. Have you at my request examined the records of Douglas County relating to titles of certain lands on the Wisconsin side opposite to what is known as Grassy Point?

A. Yes.

Q. Examined all of the records since the establishment of that dock line?

A. Yes, and for some time back.

Q. Have you examined the transfers of the land or of portions of these lands that have been made, starting with I think that is Lot 1, Section 17, wasn't it?

A. Below Grassy Point Lot 1, Section 17, 49-14.

277      Q. And extending southwesterly as far as and including Billings Park?

A. Yes.

Q. Commencing now at the northeasterly edge of these lands, what was the first piece of property that you found had been transferred since the establishment of the dock line?

A. Would you count a tax deed as a transfer?

Q. Yes.

A. Then, lot 1 in Section 49-14 would be the first—Section 17, Township 49-14.

Q. That tax deed ran to whom?

Attorney-General Owen: Objected to as incompetent, irrelevant, immaterial and not the best evidence.

Mr. Hanitch: I would like to state that the reason for presenting the evidence in this form is to save the record from being lumbered up with records; also, that all the records are in Douglas County, Wisconsin, and are under control of the counsel for the other side, and if the facts testified to by the witness are not correct they may be contradicted without inconvenience by the State of Wisconsin.

Mr. Gard: I will just state that the records are no more under control of the counsel on the other side than they are under the control of the counsel for the State of Minnesota. They are under the control of nobody that I know of.

The Commissioner: The records are under the control of the county officials but the witness may go ahead and answer the question.

A. It ran to the man who is now assessed as the owner of the property. As I remember, his name was Richardson, W. E. Richardson. I am not positive as to that.

Q. What was assessed by the officials for this land?

Mr. Gard: Objected to as incompetent and not the best evidence.

Q. I will ask one other question: In your examination of the records relating to these titles did you examine the assessment records?

A. Yes.

Q. I will repeat the question: What was assessed as Lot 1 by those officials?

Mr. Gard: Objected to as incompetent and not the best evidence.

A. The description on the assessment records is simply Lot 1, Section 17, Township 49, Range 14, described as containing eight acres of ground.

Q. What does the Government survey show that it contained—Lot 1?

Attorney-General Owen: Objected to as incompetent, irrelevant, immaterial and not the best evidence.

The Commissioner: Go ahead.

Mr. Hanitch: Let me make a suggestion at this time: that all of this evidence goes in under objection.

Attorney-General Owen: Do you mean that all his evidence shall go in subject to the objection?

Mr. Hanitch: Yes.

Attorney-General Owen: All right.

A. Nine-tenths of an acre.

Q. What, if you know, constituted the balance of the  
279 eight acres?

A. I would judge from the way it appears on the assessment roll the balance of it consisted of the land under water between the original meander lines and the present dock line.

Mr. Owen: I move to strike out the answer as a conclusion of the witness.

Q. Was the land afterwards transferred by tax——

A. By tax deed.

Q. There were subsequent tax deeds, were there?

A. Yes, sir.

Q. State if the assessment records show the same assessments of lands involved as the one you have already described?

A. I don't quite understand the meaning of your question.

Q. Do the descriptions go by the assessment rolls—correspond with the descriptions which you have already testified to as to this first tax deed?

A. Don't you mean there the description in the tax deed?

Q. No; I mean the subsequent tax deeds were based upon the assessment roll?

A. The description was the same both in the tax deed and on the assessment roll except that there was no mention of any acres in the tax deed.

Q. Was there more than one tax deed?

A. Yes, several.

Q. In the issuance of these tax deeds was the same description of land given in the assessment rolls as given for the first tax deed?

A. I didn't look clear back to make sure that all of them were. All that I noticed were.

Q. Passing from the land that you already testified about, to the southwest along the shore, what tract of land was next trans-  
280 ferred?

A. The next one was a piece of property that is owned by C. A. Chase—his residence.

Q. How was that transferred, by *meets* and bounds, or Government lot description?

A. *Meets* and bounds description.

Q. Were those *meets* and bounds within the dock line?

A. Entirely.

Q. What tract southwest of that was next?

A. Do you mean next in position as we go down the shore or next in point of time?

Q. Next in position as we go down the shore.



A. The next was a piece of ground owned by B. C. Cooke described in the same manner.

Q. Then following down the shore reaching the land that is generally known as Billings Park, how was that transferred?

A. By a meets and bounds description.

Q. By whom and to whom was that transferred?

A. By the trustees of the estate of Frederick Billings to the City of Superior.

Q. Was there one or two transfers?

A. Two.

Q. How was the land described in those two transfers?

A. I can't tell you the exact descriptions, but they began at a certain point which I think was on the section line and followed out a meets and bounds description over an irregular shaped tract extending out to the dock line, for some distance on the dock line and back over another line around the point of beginning.

Q. Do any of the transfers since the dock line has been established undertake to reach out beyond the dock line?

A. No.

281 Q. The dock line which you have testified of is the Wisconsin dock line or the dock line on the Wisconsin side?

A. The dock line on both sides were established at the same time.

Q. The one that you referred to is the one established on the Wisconsin side?

A. Yes, nearest Wisconsin.

Q. And was the one established by the Federal Government?

A. Yes.

Q. And approved by the City of Superior?

A. (No answer).

282 D. E. STEVENS was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. You are a resident of the City of Duluth, Captain Stevens?

A. Yes, sir.

Q. And have been for how long?

A. About 48 years.

Q. What year did you come here?

A. In 1871.

Q. And you are how old?

A. I am 54.

Q. So you were about six years old when you came?

A. Yes.

Q. Where have you lived since you came to Duluth, principally?

A. When we first landed in Duluth we lived down on what is called Park Point, now Minnesota Point, below the Canal, lived there a year or so, then moved over on to Rice's Point, lived there quite a

number of years, 15 or 20 years, and then have lived ever since then up in the West End.

Q. Up in the West End of the city?

A. Yes.

Q. That is up near Oneota?

A. No, at Twenty-third Avenue West.

Q. That would be on St. Louis Bay, would it not?

A. Just above the bay.

Q. You are now engaged in work at the Minnesota Steel Plant, are you?

A. Yes, sir.

Q. And were you for some terms a member of the City Council of the City of Duluth?

A. I was.

Q. How many terms?

A. One term.

283 Q. Were you for some time a member of the Board of Education of the City of Duluth?

A. I was.

Q. How long were you a member of the School Board?

A. Nine years.

Q. In the '70's and '80's were you engaged in navigating the waters between what is Wisconsin and Minnesota Point to say Fond du Lac at any time?

A. Yes, sir.

Q. How long and to what extent?

A. The first was working with my father, scowing wood. That's when I was twelve years old, twelve, thirteen and fourteen, three summers.

Q. That would be about '78, somewhere along there?

A. '78 and '79, about.

Q. Where were you hauling wood from and to?

A. From Huegier Island and upper St. Louis Bay, at the upper end of upper St. Louis Bay.

Q. What do you mean by Huegier Island?

A. They call that Big Island.

Q. Was it so named because of a family which lived there?

A. There was an old French lady by the name of Mrs. Huegier and her son lived there at that time.

Q. August Huegier was his name?

A. I don't remember. I knew him, but we always just called him Huegier.

Q. After the time that you have just spoken about were you later engaged in navigating these waters?

A. Yes, sir.

Q. And to what extent and in what way?

A. In 1885 I got my pilot's papers and bought a half interest in a tug. From that time on I was navigating the river regularly right along for years.

284 Q. Did you- work take you out over the lake; that is, I mean down Lake Superior?

A. At times, not often in those early days.

Q. By what name were those waters known from Rice's and Connors Point up to the upper end of Big Island; that is, when you operated?

A. The St. Louis Bay.

Q. Was it known as upper and lower St. Louis Bay?

A. That's what we called upper bay and lower bay.

Q. It was all called St. Louis Bay?

A. All St. Louis Bay, yes.

Q. And the dividing line was where between the upper and lower?

A. Well, I couldn't say where it was.

Q. I mean was it substantially at Grassy Point?

A. Yes, yes, the point there.

Q. Have you navigated clear up to Fond du Lac?

A. Yes, sir.

Q. At what point was the mouth of the St. Louis River as you understood it in those days?

A. I considered the mouth of the river was somewhere at the Big Island. When we were going up or coming out going into the river and out of the bay. I don't know just where it was.

Q. Mouth is a big thing sometimes. Calling your attention to Minnesota's Exhibit 3 I will ask you, in passing Grassy Point going up towards Fond du Lac what was the main navigated and navigable channel from that point up?

A. From A.

Q. Yes, from starting point marked A. Grassy Point, what was the main navigated and navigable channel or course?

A. What is this, D?

285 Q. Yes.

A. After we get to the sound end of Grassy Point then followed that red line from A to B and B to D through the cut-off, was the main navigated channel.

Q. And the course usually taken by all kinds of traffic?

A. Yes, sir.

Q. Was there another channel to the south of that anywhere?

A. Several channels south.

Q. Several channels south of it?

A. Yes.

Q. How many?

A. There are two channels. One was a flat.

Q. I mean to the south of this line that you have just indicated?

A. Yes. I was figuring that out. There is one channel there, definite channel, and the rest,—there were two flats, but they weren't—there was no—bull rushes in them, and one next to the shore and one a small one between.

Q. That is an E there and that is an F up there, if that is what you were referring to.

A. That red line is practically where that channel is, then.

Q. Now let's get it on the record. What you are pointing to is the line marked E curving to the left and ending up at F?

A. Yes, sir.

Q. What about that? Do you say that was a well-defined channel?

A. That was a small channel.

Q. Did you take it at times going up and down there?

A. Very seldom.

Q. I say, did you take it at times? Have you been over it?

A. Yes, sir, I was over it very seldom.

Q. That was not used as much as this other one?

A. No.

286 Q. You say there was still another one south of this?

A. That was southwest, right along up to there (indicating).

Q. Now you are pointing to a point just westerly of the line marked E-F, are you?

A. Yes.

Q. You say there was a channel in there also?

A. Channel in there and before we got in to the cut-off channel. It flattened out there, pretty shoal, so we never used that channel.

Q. Now calling your attention to this curved whitish line that is marked H, did you use that in navigating that unless you were going to Milford?

A. No, sir, never used that without we had some business up that way.

Q. You say you never used that unless you had some business up that way?

A. No, sir, never used it.

Q. You say "we"; do you mean by that that it was not—that traffic generally did not use it?

A. I never used it.

Q. Did you know of its being used except for that purpose, that is where there was business up there at Milford or up in that direction?

A. No, I don't remember.

Q. Now, what if you know, Captain, is the fact with reference to whether the bottom of this water area here changed from time to time by filling in or otherwise?

A. I never noticed much change in the water in the upper bay. I have noticed change further up the river, away up, bars form. I couldn't say that I have noticed any particular changes in that upper bay.

Q. I guess I neglected to ask you: Suppose that when you were going up north of Big Island, then what course would you take?

287 A. A to B, north of the island.

Q. That isn't marked there, but this line is marked C.

A. Well, to C.

Q. On what line, substantially, from the point marked B?

A. On the red line about C, and then followed the—of course this channel is changed.

Q. Then following the crooked whitish line further on?

A. Yes, sir.

Q. Did most of the traffic go southerly or northerly of Big Island until the new channel was dredged by the Government?

A. Southerly of Big Island.

Q. Do you know whether or not there are tides in these waters extending up as far as Fond du Lac?

A. There are.

Q. And have been——

A. Well, tides—current would set up at times; depend on the wind.

Q. They are currents, then, sometimes call them tides?

A. Yes.

Q. State what you know about that, what the fact is?

A. During the summer time when there wasn't much water in the river, why, the river clear to Fond du Lac would be right at a standstill, the current. The wind would go into the northeast, the current set up, and when the wind went down the current would set down, and it varied that way sometimes two or three times a day.

Q. Out in there what you have described as lower St. Louis Bay, was the water much the same in depth clear across from one shore to the other out there, or was it much deeper in places than in others?

A. Well, it was quite uniform, the depth in the St. Louis Bay. After you got up to the upper end of it just northeast of Grassy Point you had to leave the Wisconsin shore out towards the—made a curve around there to get into the deeper water. Here's where the shore is (indicating).

Q. You point here along the center east and west of lower St. Louis Bay where you say that the water was about the same clear across?

A. Yes.

Q. You said you never or seldom went around this curve marked H unless going to Milford or had some business up in that direction, as I understood you, did you—that is this around there (indicating)?

A. I don't remember of ever seeing that channel.

Q. Well, did you know about there being a bar or shallow place over at the westerly end of this curved line H?

A. No, I didn't know about that bar.

Q. Didn't go around there?

A. No, sir.

Cross-examination.

By Mr. Gard:

Q. When did you say you got your license, Captain Stevens?

A. I think it was '85, '84 or '85.

Q. And what boat did you operate?

A. At that time it was a tug, Pridgeon, John Pridgeon.

Q. Whose tug was that?

A. I bought her.

Q. Did you own her?

A. Yes, sir.

Q. Is that the first boat that you operated?

A. Yes, sir. Well, no, I was for three years prior to that, you know, on the wood scow.

289 Q. For whom, yourself?

A. For my father.

Q. With your father?

A. Yes, sir.

Q. How much water did your wood scow draw?

A. I think as near as I can remember about four feet.

Q. And you were hauling wood down from what place to what place?

A. From all over around up on that upper bay down to the harbor here supplying wood for the steamboats that came in.

Q. Where did you land it usually?

A. At Primer's dock.

Q. Where was that located?

A. It was down just this side of the canal.

Q. The Duluth canal?

A. Yes, sir.

Q. And then you got the tug that you speak of?

A. Yes, sir.

Q. How long did you operate that?

A. I operated that tug myself for eight or ten years just approximately; something like that.

Q. What were you doing with it, Mr. Stevens?

A. Towing brownstone from Fond du Lac was the biggest job I had at that time.

Q. How often did you make trips to Fond du Lac?

A. Well, some seasons we would make more trips than others.

Q. About how many trips did you make?

A. There was one season we averaged pretty near a trip a day; sometimes we made two trips in a day, in 24 hours.

Q. And in bringing that sandstone down you came the cut-off, didn't you?

A. Yes, sir.

Q. Always, didn't you?

A. Yes, sir.

Q. Because it was the nearest?

A. Yes, sir.

290 Q. Did you ever haul cordwood from above Big Island?

A. Yes, sir.

Q. What part above Big Island?

A. From off the shores of the river at different places.

Q. With your scow or with the tug, which do you mean?

A. Well, I towed scows down there loaded with wood for the Lime Kiln people.

Q. From the Lime Kiln people?

A. Yes. That was later on.

Q. And you went through the south channel?

A. Yes, sir.



Q. And what other business did you have with your tug above Big Island?

A. I towed logs from the Fond du Lac boom for quite a number of years down to the different mills.

Q. From Fond du Lac?

A. It was what they called the Fond du Lac Company's boom up there.

Q. Where was it, at Fond du Lac?

A. About a mile below Fond du Lac.

Q. Near New Duluth, above New Duluth?

A. Above New Duluth, yes.

Q. And in towing these logs which way did you come down?

A. Through the cut-off.

Q. And what else did you haul from above Big Island?

A. Wood, logs and brownstone, that is all, practically.

Q. And you used the cut-off channel southerly of Big Island?

A. Yes, sir.

Q. Do you know how much nearer that channel was than the other channel around northerly of Big Island?

A. No, sir, I never measured it; it's considerably nearer.

Q. You knew it was substantially nearer?

A. Yes, sir.

291 Q. And that is the reason you took it, wasn't it?

A. Yes, sir.

Q. Did you ever go to Milford?

A. Yes, sir.

Q. With your tug?

A. In the early days I have been in there when I first started tugging, got logs in there in Milford slough.

Q. How often did you go to Milford do you think?

A. Very seldom.

Q. Just a few trips you mean?

A. Just once or twice, something like that, I remember going in there.

Q. Do you remember which way you went in?

A. No, I couldn't say exactly. Went across in there. There are some channels in there and I had to pick them out to get in there.

Q. Would you undertake to say which way you went to Milford? Could you undertake to say which way you went?

A. Yes, I think I could if I had a map that showed it. I could show pretty near which way I went in.

Q. Can you tell without a map which way you went?

A. I remember coming out through a narrow channel there that ran out in to the main—the channel coming from Spirit Lake.

Q. I will ask you if you are familiar with the Meade map?

A. No, sir.

Q. Did you use any map in navigating the waters of the bay and river?

A. No, sir.

Q. Just was governed by your knowledge of the waters?

A. If we weren't sure where we were going we took a pole to help

along. There was a little channel in through here (indicating) quite deep water, and it was narrow, got in and got around in here some place.

Q. Which way did you go in, do you remember?

292 A. Then there was only 5, 6 or 7 feet of water. There might be some deep holes in there.

Q. You mean in next to Milford?

A. Up through after you left this deep hole out here.

Q. You mean H, channel H?

A. Yes, sir.

Mr. Fryberger: The record doesn't show anything as to where he pointed out.

Q. Mr. Stevens, I will ask you to locate where you think Milford was located?

A. Here is Milford right there (indicating)—the old mill.

Q. Not the place that you were pointing to before this?

A. I am mistaken. Here is Milford right there (indicating). This is that deep slough that ran up in there. I have located myself. That slough where the brickyard is. Brickyard right here (indicating).

Q. You are pointing to the first slough westerly of the one that you now locate Milford on, are you, when you say the brickyard?

Mr. Fryberger: That really doesn't mean anything on the record.

Mr. Gard: Now you can cross-examine this witness.

Mr. Fryberger: No, I can't.

Mr. Bailey: Is it not a fair statement to make here, that the point that he now points out as Milford is the projection at the westerly and two dots just east of it?

Mr. Gard: I haven't suggested it is.

Mr. Bailey: Isn't that what he pointed to?

293 Mr. Gard: I am asking him to locate Milford.

Mr. Bailey: How do you want him to locate it in the record?

Mr. Gard: I want him to point to the place and I will locate it in the record.

Q. Will you point to the place that you locate as Milford?

A. (Witness indicates.)

Q. Now then, you point to a place——

Mr. Bailey: Won't you make some statement that will indicate anything on the record as to where he points?

Mr. Gard: I was going to, wasn't I, Mr. Bailey?

Mr. Bailey: I understood you were starting off to ask him about something else.

Q. Make a cross where you consider Milford was located?

A. (Witness indicates.)

Q. You have made a cross now at the place where you considered Milford was located?

A. Yes, sir.

Q. Now state how you went into Milford when you went in there?

A. We went right across straight into Milford.

Q. Across from where?

A. From the deep water out here.

Q. That is, you are pointing to the channel now marked H?

A. Yes, sir.

Q. At the westerly end of the channel marked H, that is to the westerly part of it?

A. No, this would be the end up here. We leave that channel down here (indicating).

Q. At the northerly part of it; is that right?

A. Yes, be the northerly part.

294 Q. Then go straight over to Milford?

A. Practically straight over there there is a bay in there.

Q. You went up channel H marked H on this Wisconsin's Exhibit 1, didn't you?

A. I don't remember whether we would go up H or go right across here (indicating). It was practically the same thing right through here.

Q. You just stated a while ago that you went straight from the northerly point of channel H, is that right?

A. Practically right.

Q. Then if you went across from there you went up channel H all the way, didn't you?

A. Not necessarily. I don't know exactly how we got in there.

Q. Would you go across any of that territory there (indicating)?

A. I don't understand the question.

Q. That is, could you navigate that water there anywhere?

A. Yes, sir.

Q. Well, there was deep water in H, wasn't there?

A. The whole thing was a complicated mass of channels and deep holes.

Q. And you think you went across from the northerly or northermost portion of the channel marked H straight to Milford; is that right?

A. No; it would be a little more west than the northerly. You couldn't go straight into any of those channels; but that would be practically the way we got into Milford.

Q. Well now, mark on the map where you think you left channel H to go direct to Milford?

Mr. Bailey: How do you want him to mark?

Q. With a cross.

A. Just about that place (indicating).

295 Q. That cross is in channel H, isn't it?

A. Yes, sir.

Q. You spoke of tide in the waters of the St. Louis. You mean the rising and lowering of the water caused by the wind, do you?

A. Yes, yes. That is what I understand causes the rising and lowering of the water of the harbor.

Q. Did you ever observe how often these risings and lowerings occurred?

A. There was no regular rising and lowering of the waters. Went at different intervals; just depend on the water. Of course when there was a freshet on or a lot of water coming down the St. Louis River there wouldn't be so much of it up the river and up the bays.

Q. You have seen some pretty swift currents come down the river there, haven't you?

A. Yes, sir.

Q. And you have seen that current extend down into St. Louis Bay, haven't you?

A. Yes, sir.

Q. And out in Superior Bay?

A. Yes, sir.

Q. And out at the natural entry into the lake?

A. Out into the lake, yes.

Q. Are you familiar with the channel out in Superior Bay, the channel before there was any dredging done?

A. Yes, sir.

Q. Was there a well-defined channel there before there was any dredging done?

A. Yes, sir.

Q. Do you know——

A. There was in the Superior Bay.

Q. Yes, Superior Bay I am speaking of. I will show you Wisconsin's Exhibit 1 and ask you if the channel is shown on that map substantially as you remember it?

296 Mr. Fryberger: At what point is that?

Q. In Superior Bay?

A. Yes, sir.

Q. From the entrance through Grassy Point——

A. By Connors Point?

Q. Yes, by Connors Point. When the channel went by Connors Point which shore was it closest to?

A. Right close to the end of Rice's Point, the deep water.

Q. On the Wisconsin side which shore was it closest to at Connors Point, I mean?

A. Closest to Connors Point.

Q. And then it crossed over right close to Connors Point there, did it?

A. It went by Connors Point right close.

Q. And up into St. Louis Bay a short distance?

A. Yes, sir, right by the end of Rice's Point.

Q. And was then lost?

A. Then it dwindled out, flattened out.

Q. Out through Superior Bay there was a well-defined channel, definite channel to the natural entry?

A. Yes, sir.

Q. Did you usually follow that in navigating Superior Bay?

A. Yes, sir.

Q. And you have seen a pretty good current in the channel, haven't you, before there was any dredging in the bay?

A. No, never seen any very swift currents down there.

Q. But you have seen currents?

A. Oh, yes, current in and current out.

Q. Which way was the general trend of the current?

A. To and fro.

Q. Didn't the water empty out of that bay and into the lake?

297 A. Yes, sir.

Q. Wasn't there water came down St. Louis Bay and River that went into the lake?

A. Yes, sir.

Q. Then which way was the general trend of the current, was it up or down the river?

A. Spring of the year it would be down the river and the latter part of the season it was practically the same.

Q. Wasn't there water coming down the St. Louis all the time?

A. Very little.

Q. Did the St. Louis practically go dry up at the falls?

A. Pretty much so.

Q. You mean there wasn't any substantial amount of water coming down there?

A. Not enough to make a current to amount to anything.

Q. Do you know how much water came over the falls in dry weather?

A. No, sir.

Q. Never attempted to measure it?

A. No, I have waded across it.

Q. Where the falls are, where the rapids are?

A. Yes, sir.

Q. Ordinarily you couldn't wade across it, could you?

A. No, sir.

Q. At the end of Minnesota Point the channel runs quite close to the point, does it not?

A. Yes, sir.

Q. What kind of a place was there at the entry before there was any dredging done?

A. I don't know. I don't believe that I ever used that entry after I started tugging.

298 Q. The Duluth entry had been made before you started tugging?

A. Yes.

Q. After the channel comes through between the Grassy Point and Wisconsin shore there is a well-defined channel for some distance out in St. Louis Bay, isn't there?

A. Not far out.

Q. There is for some distance?

A. There is a little better water ran out there for a piece and it flattened out.

Q. You see the soundings on this map, do you?

A. No, I can't read them.

The Commissioner: Take this glass.

Q. Read the figures as you go through by Grassy Point in what is marked there as the channel on this map.

A. Right directly south of the end of Grassy Point there is a channel I see 24, 31, 21 and then 31—I am going down.

Q. Where are you there?

A. No, no, further down.

Q. There (indicating)?

A. That's 26. No, that's 31, 26, 30, 24.

Q. 28, isn't it?

A. Well, 28, 30, 30, 45, 36, 27, 30, 25.

Q. What is that (indicating)?

A. I think it is 21.

Q. And then?

A. 15.

Q. That is out in St. Louis Bay quite a distance, isn't it?

A. Yes, just getting out into it. It shoals up there to 14, 15, 10, flattens out there.

Q. So far as you know these soundings are correct, aren't they?

A. As far as I know they are.

Q. Have you any reason to think that the soundings on this map, Wisconsin's Exhibit 1, are any of them incorrect?

299 A. No, sir.

Q. How much water did your tug draw, Mr. Stevens?

A. Just about six feet, that is the first one I ever owned.

Q. That was the one you started to operate about——

A. '84 or '85.

Q. And operated how long?

A. Oh, I owned her for 25 years or more. I operated her myself then for I think seven, eight or ten years; then I bought another tug.

Q. Were there many boats operating on the waters of the St. Louis Bay and River in the '70's?

A. No, sir.

Q. And what were operating were most of them shallow draft, weren't they?

A. Yes, sir.

Q. And they could go almost anywhere in St. Louis Bay, couldn't they?

A. They could in the lower bay.

Q. Well, in the upper bay there was a good many places that they could go, wasn't there?

A. Oh, yes, yes, sir.

Q. And they didn't go in any one particular channel, did they?

A. In navigating that myself I generally kept practically the same channel.

Q. You always went to the south of Big Island, to the southerly of Big Island, when you were navigating, except a few times you went to——

A. Probably I have been around there——



Mr. Fryberger: Speak up a little, Captain.

A. I was sailing it for thirty years and I have been both ways; how often I couldn't say.

Q. And the light draft boats always or usually took the  
300 nearest course that they could take, didn't they?

A. I always took the nearest course, shortest.

Q. You spoke of a channel being up in the Kimball Bay, didn't you, one of these bays that are now called Kimball Bay?

A. No, sir.

Q. What bay was it you spoke of the channel going into on the Wisconsin side?

A. I don't think I testified to any.

Q. You testified to a channel going up on the Wisconsin side there, didn't you?

A. Yes.

Q. Where did that go?

A. It swung around and went over into the cut-off channel, going up through the cut-off.

Q. Was there any channel went up into Kimball Bay?

A. Yes, sir, there was a channel, pretty fair water all through it. There wasn't any particular channel.

Q. Well, boats could run up there, couldn't they, shallow draft boats?

A. I ran up in there.

Q. You say there wasn't any particular channel?

A. No, sir, not up in the slough. We called them sloughs.

Q. You know what is now called Kimball Bay, don't you?

A. Yes, sir, I think I do.

Q. You were up in that bay?

A. Yes, hundreds of times.

Q. Is there anything that you would call a channel that goes up there?

A. There is a channel down—it leaves the deep channel down just southwest of the end of Grassy Point and follows the Wisconsin shore, runs up around there and then all of these sloughs run off that.

301 Q. You say it leaves the deep channel down near Grassy Point?

A. Yes, just about the south corner of Grassy Point on the Wisconsin side of the channel.

Q. As a matter of fact, Captain Stevens, boats traversed what you call upper St. Louis Bay without much reference to channels, didn't they?

A. No, sir.

Q. What did the boats draw that were navigating those waters?

A. Well, the tugs I owned is about all I can speak for. Of course I have an idea what some of the other boats—There was the tug Spirit, would draw six feet of water, and the tug Brower; she drew six and one-half feet of water. The tug Mystic, she drew about ten feet, a little better. That was later on.

Q. How late was that?

A. Some time in the '90's, 1890, something like that.

Q. That was after the channel was dredged?

A. That is before.

Q. Do you know when the channel was dredged?

A. No, I do not; I couldn't give the date.

Q. Don't you know it was dredged in '89, '90 and '91?

A. I couldn't say the date it was.

Q. You say this tug that drew ten feet you saw that there about 1890?

A. I couldn't say. I owned her for eight or ten years and I sold her seven or eight years ago.

Q. Where did you go with that tug in what you call upper St. Louis Bay?

A. I was towing logs out of Pokegama Lake with her for two seasons.

Q. Out of Pokegama Bay, you mean?

A. Yes.

302 Q. What is called Pokegama Bay?

A. We called it Pokegama Lake

Q. Then which way did you go down?

A. Down south of Heugier Island, down the cut-off. I was towing up. I towed out of Pokegama Lake up to New Duluth there two seasons.

Q. With a boat that drew how much water?

A. Little better than ten feet.

Q. How did you get in Pokegama Bay?

A. We went through some channels in there. Had to kick out a channel to get into the lake.

Q. You mean let your wheel dredge it out?

A. Yes, to a certain extent. It was hard getting in there around some of these corners.

Q. Now then, you see the figures of soundings on this map. I would like to know how you got in there with your tug. Start from Grassy Point and show me how you got in there? Do you see you are running over water that is only seven feet deep?

A. Yes, sir.

Q. And eight feet deep?

A. It doesn't make any difference; I went through there. This is that island. (Indicating).

Q. Now you have run a line there that runs over soundings of seven feet and eight feet, haven't you?

A. Yes, sir.

Q. And you think you went in there with your tug that draws ten feet of water?

A. I went in there with the tug Mystic drawing ten feet of water.

Q. When?

A. I couldn't tell you that offhand. Before there was any dredging up the river.

Q. About what years was it?

A. It was the time Richard and Poole ran the sawmill up  
303 at New Duluth.

Q. About what year, I mean?

A. In the '90's some time.

Q. It was about 1890 then, you think?

A. Yes, sir, I think so.

Redirect examination.

By Mr. Bailey:

Q. Captain Stevens, calling your attention to Minnesota's Exhibit 3 I will ask you whether the line that you just indicated to counsel as the line that you took with the tug Mystic was substantially the line A-E-G-B-D and then on up the channel to the south or east of Big Island and then following the light shaded line into Pokegama Bay?

A. That's correct.

Q. And you say that that tug in taking that course drew ten feet of water and she could get through all right?

A. Yes, sir.

Recross-examination.

By Mr. Gard:

Q. You stated that you had to let the tug dredge some places, didn't you?

A. Oh, she would touch bottom in places.

Q. And you could dredge with your wheel, couldn't you? As a matter of fact, the wheel will dredge out in a short time if it isn't very deep?

A. It won't do it the first time and you can't dredge ahead with your wheel; after you pass over a shoal two or three times with a tug we will generally get better water.

Q. The wheel has a tendency to dredge out, doesn't it?

A. Oh, yes, yes, sir.

By Mr. Hudson:

Q. Do you remember the sawmills that were at New Du-  
304 luth that were operated by the B. B. Richards Lumber Company and the Herman Company?

A. Yes, sir.

Q. Do you remember that barges were loaded at those sawmills in the year 1891 and brought down the river loaded with lumber?

A. I remember they loaded some barges, but what year it was I couldn't say.

Q. Do you remember whether those barges came down the river before the natural channel, or the artificial channel, had been dredged out?

A. I think they did.

Q. It was some two or three years before that, wasn't it?

A. To the best of my recollection I think it was.

Q. Don't you know as a matter of fact that those barges in coming down the river loaded with lumber took the channel west of the island, followed that channel down west and north of Big Island?

A. Yes, I believe they did. Of course, that cut-off was a pretty sharp turn for a vessel of any size to make.

Q. But these were large lumber barges, weren't they?

A. No, small lumber barges.

Q. Would draw ten feet of water?

A. They wouldn't put the full load on them up there.

Q. They drew about ten feet of water, didn't they?

A. I don't think so.

Q. You don't think so?

A. No, sir.

(Recess, ten minutes).

305 C. W. McMANUS was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Hanitch:

Q. You reside where, Mr. McManus?

A. Superior.

Q. How long have you lived there?

A. Well, we came there in '63.

Q. How old were you when you came?

A. Three years.

Q. Lived there ever since?

A. Practically.

Q. In your early life what was your business?

A. I followed tugging here in the harbor.

Q. How soon did you commence sailing the waters of the bays at Superior?

A. Must have been about '71.

Q. What was your first work on the boat, Mr. McManus?

A. I was a boy aboard the Agate, passing wood, tending line, looking after the scows.

Q. Did you burn wood in these boats?

A. Altogether.

Q. What type of boat was the Agate? Was she a propeller tug or side wheeler?

A. Very much like the rest of these propeller tugs, smaller, of course.

Q. About how much water did she draw?

A. About six feet and a half.

Q. How long did you stay with that boat?

A. I worked for that concern seven years.

Q. Did you go out with any other tug on the bay or on  
306 these waters here at the head of the lakes?

A. Afterwards.

Q. Afterwards, yes.

A. Oh, yes.

Q. What other boat or boats were you on?

A. Well, I was on the John A. Page, Molly Spencer, Amethyst,  
Frank C. Fero.

Q. About how long did you continue in the boating business?

A. Fifteen or sixteen years altogether.

Q. You say you started passing wood, or firing, I suppose that  
was?

A. Well, I done some firing as I grew older.

Q. What position did you take after firing?

A. I ran the engine on the boat afterwards.

Q. Did you have a Government license as an engineer?

A. Oh, yes.

Q. When did you get that?

A. I don't remember when I got the first issue. It was before I  
was legally of age, quite a while.

Q. About how many years did you have an engineer's license?

A. I still carry a license.

Q. After you quit the work of engineer on tugs, what vocation  
did you take up?

A. I went in to the big steamboat business, steamboat between  
here and Chicago and Buffalo.

Q. How long did you continue on those boats?

A. About three years.

Q. What business did you take up after that.

A. Railroadng.

Q. What position do you hold now with the railroad?

A. Locomotive engineer.

Q. How long have you held that position?

A. Twelve or fourteen years or more.

307 Q. After giving up the tug business did you build or pur-  
chase a little steamboat for yourself or your pleasure about  
the waters?

A. Yes, sir.

Q. While you were in the tug business what waters did you sail?

A. Oh, we was all over this end of the lake and all over the con-  
necting waters here.

Q. Did you run from the Superior Bay up through the other  
bays as far as Fond du Lac?

A. Yes, sir.

Q. What class or kind of work did you do with the tugs in your  
trips up and down the river?

A. Oh, we done a general towing business in the way of scows  
and carrying wood and stone and towing rafts.

Q. About what did these tugs draw in water?

A. They all ran from six feet to nine and a half or ten.

Q. Had the channel been dredged out while you were in the tug business here?

A. I don't think it had, no, sir.

Q. What was the deepest draft boat you worked on in the tug work as engineer?

A. I think the Spencer was the deepest boat.

Q. About how much did she draw?

A. She was down over ten feet quite a little.

Q. Did you use that boat for towing up the river any?

A. No, we never went up above Grassy Point with her.

Q. What was the deepest draft tug you used above the Grassy Point?

A. I have been up there in a ten foot boat.

Q. Well, prior to the dredging of the Government channel what was the deepest draft boat you used?

A. Ten feet.

308 Q. How far up did you go with the ten foot boat?

A. Fond du Lac.

Q. Now, Mr. McManus, coming out of St. Louis Bay and passing up past Grassy Point, where did the channel lie from that point, that is beginning just at the easterly side of Grassy Point where did the channel lie? The channel between Grassy Point and the Wisconsin side lies southwest and northeast, does it not?

A. The old mouth, as we called it, or entrance to the river there, was a little more to the westerly, struck in straight across from Oneota to a point in that direction.

Q. Would that be to the Wisconsin side or to the Grassy Point side?

A. Going from the Minnesota side over to the Wisconsin side.

Q. Well, when you came to the Wisconsin side and opposite Grassy Point how far up the Wisconsin side did you follow before you made a turn?

A. We followed along up there in the neighborhood of three-quarters of a mile; I think possibly a mile up, a mile, up about abreast of where Billings Park is now, in close to the shore.

Q. Closer to the Wisconsin shore than to the Grassy Point shore?

A. Hardly. We were about the middle of the stream there.

Q. Billings Park point would be about half a mile beyond the Grassy Point?

A. Yes. It all of that. I should think at that time it was three-quarters of a mile.

Q. Now when you reached that point, assuming that you were going up the river, what direction would you take from there, what point next would you start for?

A. Why, they would swing on a gradual curve there when we got up by that middle ground swinging off and head for what might be termed the northeasterly end of that island that lies out  
300 from the Blast Furnace Dock now

Q. You have heard the testimony here as to there being two channels, have you not?

A. Yes, sir.

Q. One is called the southerly or shortcut channel, that would go to the Wisconsin side of Big Island, would it not?

A. Yes, sir.

Q. And the other channel would go to the northerly side or Minnesota side of Big Island, would it not?

A. Yes, sir.

Q. Now, when you reached the northeasterly point of that island, if you wanted to go up the river by the southerly channel, which direction would you turn?

A. Swing right off to the southerly there at right angles.

Q. If you wanted to go to the northerly side of Big Island and up the river which direction would you take?

A. You would maintain the general course you had been on back from the Wisconsin shore to the Minnesota shore.

Q. Where would this island be, at your left or right as you passed over?

A. Left-hand side.

Q. About how close to the island would you say?

A. I remember we used to go right close to it. The channel was wide, or water was wide; we could go close to it.

Q. Then you went near the Minnesota side and which direction would you swing then?

A. The channel then carried you clear over to the Minnesota side close to the main bank. It was crooked and tortuous and you were over there till you got clear over close to the main land in about a westerly course, I should say.

310 Q. Were those the two course- that were generally used by the boats at that time in going up the river?

A. Yes. They were the only two ways to go.

Q. Prior to the time that the Government channel was dredged out I think you testified that you were on a boat of ten feet draft. Did you ever go up with that ten foot draft boat alongside of this island and north of Big Island?

A. That's the way we went.

Q. Which one of these channels did you use mostly; that is, the southerly that is inside on the Wisconsin side of Big Island or the northerly and Minnesota side of Big Island, which one of these did your boats mostly use in those days?

A. That depended on the draft of the boat. Six and a half foot could go in the cut-off but a boat drawing more water than that would have a good deal of trouble.

Q. You would take the other channel?

A. I would take the other channel.

Q. With the deeper boat?

A. (No answer).

Cross-examination.

By Mr. Hudson:

Q. Mr. McManus, you stated that you commenced sailing the tug Agate in 1871?



A. That was the estimated date. I figured it was about that time.

Q. And that it drew about six feet and a half of water; that's right, is it?

A. Yes, sir.

Q. And you continued to run that boat for about seven years?

Q. Worked on her for about seven years for the concern;  
311 not always on this one boat. They had other boats.

Q. Did you use these other boats, the John A. Page and Molly Spencer and Amethyst and Frank C. Fero during that seven years?

A. No, they didn't belong to the same concern; they were different owned boats.

Q. These boats were used after that seven-year period?

A. Yes, sir.

Q. And you used some one of these boats for how long a time, some one of these four boats that I have just named?

A. I was on the Page, for instance, for two years.

Q. On the Molly Spencer?

A. In her part of two years. She was laid up.

Q. And in the Amethyst?

A. I worked on that boat quite a little time; I don't remember; different years; sometimes entire season and sometimes not.

Q. More than two or three years?

A. Something like that.

Q. Well, there is another boat here, the Frank C. Fero?

A. It was only a little while on that boat. She was a ferry boat.

Q. Then you used these four boats over a period of five or six years; is that right?

A. Yes, something like that.

Q. Subsequently you went down the lakes, operated big steam-boats down the lakes?

A. Yes.

The Commissioner: About what was the average time of the opening of the season in the spring?

The Witness: Why, it would be generally about the first of May.

The Commissioner: And closed about when?

312 The Witness: Oh, we used to figure on being laid up about Thanksgiving time, sometimes later, but not much.

Q. The earlier years that you operated the boat up the St. Louis River and Bay you did, you said, a general towing business; is that right?

A. Yes, sir.

Q. That is towing logs—

A. This concern that I was with owned a number of scows and handled a great deal of rock, stone. We towed some logs. But that wasn't our general business. Handling these scows, towing rock, was the business principally at the time the canal piers were being built and all this work.

Q. And you say these boats drew seven, eight and nine feet of

water. When you went up the river from Grassy Point you stated that the larger boats took the direction westerly around the small island to the north and the small island that is opposite the Blast Furnace on the Minnesota Side; is that right?

A. Yes; kept off to the westerly, down the main river.

Q. And that in passing to the north of the island you passed quite close to the shore of the island?

A. Yes, sir; small marsh island that lies out from the Blast Furnace.

Q. In passing up the river from that point, as I understand you to say, you took a tortuous route over to the west; was that headed for the landing at Spirit Lake, what we have known late years—

A. Before you got up so far as that.

Q. What direction did you take when you got up there?

A. Why, when we got to the bank, the river, followed the bank around the main bank.

313 Q. You mean the Minnesota—

A. Minnesota side up around by Spirit Lake.

Q. There was quite a deep channel following along?

A. Oh, we thought we had all kinds of water when we got there.

Q. And did that continue up all the way around the west side of Big Island?

A. Yes, sir.

Q. You stated that some of the boats that drew less water sometimes took the cut-off. Do you mean the channel that is east of the Big Island, shortcut?

A. Yes, sir.

Q. But the larger boats didn't take that; is that right?

A. Not necessarily the larger boats; the deeper draft boats. Some of the larger boats which we had went the other way, a great deal larger than these boats.

Q. Went which way?

A. Through the cut-off. The deeper draft boat over six feet and a half couldn't, as I stated, go through the cut-off without a good deal of trouble to get in there. There was water enough after you got in there.

Q. Did they have any trouble passing to the west of Big Island—you said there was all kinds of trouble?

A. Not if they were in the right place.

Q. Well, if you were in the channel?

A. Yes.

Q. Now, you stated when you started in opposite Grassy Point that you went over to the river there at that point; is that right?

A. Over to the river from Grassy Point.

Q. Yes, mouth of the river?

A. Grassy Point was one shore of the mouth of the river.

Q. The mouth of what river?

A. St. Louis River.

314 Q. And what was the other shore of it?

A. Why, it was a swamp on the Wisconsin side as we took it.

Q. Then that is what you regarded as the mouth of the St. Louis River?

A. That's what I understood it as a boy.

Q. Was that so generally understood?

A. That is the way it was understood by me. I have heard others speak of it as such.

Q. Then what you understood to be St. Louis Bay was the body of water that was east of Grassy Point and between that and Connors Point, was it?

A. Yes. That was understood as St. Louis Bay, though at that time, even, I have heard the broader water up above spoke of as the upper bay, kind of a large lagoon; it was all full of rushes and weeds and muskeg, and floating island, and those things.

Q. There were some island- along up there?

A. Yes, but it was wide water from hard shore to hard shore.

Q. Were there a few islands on each side of this deeper water channel up above Grassy Point?

A. Yes; as I remember it there was.

Q. Then at which side of these islands here from what you have stated as the main channel was shallower water, rushes, and so forth—

A. At both sides there was deep water and shallow water both sides.

Q. Where was the deeper water?

A. There was deeper water as I remember now, close in to both shores.

Q. How often did you go up the river in those days from 1871?

A. Why, it depended some on the condition of the weather.

315 Q. When the weather was good—

A. When the weather was bad we worked up the river and when it was good we worked on the lake bringing rock in through both Superior and Duluth entiries.

Q. Would you go up the river many times during each season?

A. Yes, sir.

Q. Have you as many as a dozen times a season?

A. Yes, more than that.

Q. Would you think as many as twenty or thirty times?

A. I should think so.

Q. That is, your business was exclusively towing during these seven, eight years?

A. Yes, sir, but not with all of these boats. There was some of these boats that didn't work up the river; for instance, the Page nor the Spencer didn't work up the river; only into Allouez Bay.

Q. I understood you to say in relation to the Spencer in your direct examination that it worked out in the lake?

A. Yes, sir.

Q. I don't remember that you said anything about the Page, but these were the boats that drew the most water, these two?

A. Yes, sir.

Q. And most of the other boats did work up the river?

A. Yes, sir.

Q. And on some one of these boats your business was largely up the river during those years?

A. Yes, sir.

Q. And during those years were doing towing on the river there?

A. Yes, sir.

Q. Different people?

A. Yes, sir.

316 Q. Can you name some of them?

A. Why, yes. Peyton, Kimball & Barber, the tug Cotton worked up there a whole lot after she came here.

Q. They did a towing business, did they?

A. The Amethyst worked up there, H. M. Wheeler's boat, prior to that time, about the time we were working up there.

Q. Are there any other parties that you recall?

A. Yes, the Hattie Vinton done some work up there. She was quite an early boat.

Q. You were acquainted with each of these boats that were doing towing business up there, at least with the masters of the boats?

A. Yes, sir.

Q. Captains and pilots and so on?

A. Yes, sir.

Q. And you have heard them refer to this channel between Wisconsin and Grassy Point as a river?

A. Yes, we always spoke of it as a river.

Q. And that is what you regarded the mouth of the river?

A. I did at the time.

Q. And you did for many years?

A. Yes, sir.

Q. Do you at this time?

A. I did until I heard this testimony today and yesterday.

Q. You didn't testify from a map in your direct examination?

A. No, sir.

Redirect examination.

By Mr. Hanitch:

Q. Witness being shown Minnesota's Exhibit number 3, is asked to look at the same and examine it. Do you see Grassy Point there marked on this exhibit?

A. Yes.

Q. Now where is that island that you headed for when you left Billings Park point and you said was outside of the Blast Furnace?

A. (Witness indicates on the map).

Mr. Hanitch: Witness points to the island which is marked M.

319 Rec'd July 24, 1917. D. E. Roberts, Commissioner.

FRIDAY, July 20, 1917—10:00 a. m.

The taking of testimony was resumed before the Commissioner Hon. David E. Roberts, as follows:

Captain ALEXANDER McDougall was called as a witness by the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. Captain, your full name is Alexander McDougall?

A. Yes, sir.

Q. You are a resident of the City of Duluth?

A. Yes, sir.

Q. And have been since what date?

A. Since 1871 that I established my home here, but I have been here since the beginning, since 1868.

Q. Since 1868?

A. Yes, sailing as captain on a boat.

Q. Did you live here any earlier than 1868? Did you come here earlier than that?

A. No. That was the real beginning of Duluth, in 1868. I think I landed the first people here, in 1868, to make the beginning of railroad construction.

Q. The beginning of railroad construction?

A. Yes, sir; the fall of 1868.

Q. And that was the first time you came here yourself?

A. Yes, sir, that I was here, but I had been out on the lake before that, but off Superior; came in the Superior entry before that.

Q. When were you first in Superior entry?

A. In 1863.

Q. And were you navigating the lakes at that time when you first came to Superior entry?

A. Yes, sir.

320 Q. In what capacity?

A. I was second mate of the steamer Iron City; I was for a while on the Iron City and for a while on the Ironside; one of those two steamers.

Q. Did you, between 1863 and 1868, sail up and down the lakes?

A. Yes, sir.

Q. How old were you in 1863?

A. I was 18, March 17th.

Q. And were you coming to the head of the lakes frequently between 1863 and 1868?

A. Yes, sir. Well, no; between 1863 and 1868 seldom; probably once a year would be the most.

Q. Then, in 1868 you say that you brought the first people for the construction of a railroad?

A. Yes; I was then the mate of the steam Meteor.

Q. And what was that hauling at that time?

A. Sir?

Q. What was that hauling? Was it hauling supplies?

A. It was landing a party here; we landed them on the beach below where this big brewery is there today, in Duluth.

Q. Did that party have any relation to the construction of the Lake Superior & Mississippi?

A. Yes, sir. That was the beginning.

Q. This party was concerned with that construction?

A. Concerned with that survey and operation; yes, sir.

Q. And from then on did you have something to do with hauling materials for the road or bringing people up who were interested in it?

A. Yes, sir.

Q. Well, what? Just briefly.

A. To this port?

Q. Yes.

A. All classes of freight; cargoes going back again to Lake Erie ports.

321 Q. And in 1871 did you say it was you became a resident of the city?

A. I moved into my home here.

Q. And since that time, in a general way, what has been your business?

A. Up until 1881 I sailed on this lake and to this head of the lakes.

Q. And since then what?

A. I have been connected with buildings and operating vessels, stevedoring and frogging around the head of the lakes.

Q. Did you invent and build what were known as the whale-backs?

A. Yes, sir.

Q. And when was it that the first one was constructed?

A. In 1888.

Q. You built that?

A. Yes, sir.

Q. And built a considerable number after that?

A. Yes, sir.

Q. And you have been engaged in shipbuilding since that time?

A. Yes, sir.

Q. Ever since 1888 or possibly earlier?

A. Yes, sir.

Q. On these earliest days you have spoken of, were you familiar with the waters between what is known as Wisconsin and Minnesota points and Fond du Lac? Just state what your knowledge of those waters was in the early days.

A. In the early days we had no chart but what is known as the Bayfield chart. The Bayfield chart was, I think, from a survey along in the '30's, between '30 and '40 some time. The lake survey of

Lake Superior was not until about 1875; I think it began in '73, except I think the head of the lake here was surveyed earlier, I think known as the Meade chart, but the rest of Lake Superior was  
322 surveyed in the years between 1873 and 1875, I think, and the first issue of their charts came out about that time or soon after.

Q. Do you remember about what time it was that you folks got the first of the Meade charts as relating to the head of the lakes?

A. I don't remember of seeing a Meade chart until after the lake survey charts at large were issued.

Q. That is, along in 1873 or '4 or '5?

A. About that time. The Bayfield chart we had.

Q. Now calling your attention to papers that have been marked Minnesota Exhibit 8 and Minnesota Exhibit 7, I will ask you if that is what you refer to as the Bayfield chart—those papers?

A. Not a very good print that.

Q. This is a photograph.

A. This is a photograph of the chart?

Q. Yes; a photograph of a photograph.

A. Yes; that is about right; that is about right. A most wonderful chart!

Q. What?

A. It was the most wonderful chart made in such a short time by a man on a sailing vessel.

Q. Was it understood to be accurate?

A. It was all we had to go by in those days, and it was practically accurate; yes, sir.

Q. Now where, Captain, did you in those early days understand the mouth of the St. Louis River to be?

A. It was away up the river some place, up around Spirit Lake. Spirit Lake is the head of this system of bays, or extension of the lake, rather.

Q. Up at Big Island, you mean?

A. Yes, above Big Island.

Q. Where the waters divide there and one branch goes south and the other north of Big Island?

323 A. Well, we only looked on to the one channel in those days as the channel on the south side of the island.

Q. Was that the course that navigation usually took—the south side of the island?

A. Yes, that is all that I know.

Q. Now calling your attention to a chart which has been marked Minnesota Exhibit 3, and to Grassy Point which you see here. (Indicating.)

A. Yes.

Q. I will ask you what the course of navigation was from just below Grassy Point upwards towards Fond du Lac, that is, the main navigated and navigable channel; what was it?

A. Let me have your pencil and I will show you what I knew to be the place, and what we did; down in through here and past in south of the island and into the river here. (Indicating.)



Q. The course you have marked is approximately along the line A-E-G-B-D, and then up the channel south of the island?

A. Yes, sir.

Q. Now, was there a navigable channel right next to Grassy Point here, on this curved right line which is marked H at one point?

A. Where do you mean?

Q. I say was there along there.

A. A channel?

Q. Yes.

A. Not that I know.

Q. What was the character of the water there?

A. The character of that whole bay was such that a man could wade on that pretty nearly from any place up on the river here, through that whole country. There were no boats here that drew more than three or four feet of water in those days.

324 Q. What is the fact with reference to the width of the waters from main shore to main shore at, say, a point just easterly of Big Island?

A. About a mile wide. I can see it on there and know what it is; from my knowledge of charts I can see it is about a mile wide, and I have had that impression.

Q. Spirit Lake, do you know about how large that is?

A. About a mile square, looking at it there, and I know it is that large.

Q. What do the waters of Spirit Lake consist of? Is it the backing up of the waters of the bay of St. Louis, or is it a part of the river?

A. It is part of the system or extension of Lake Superior into a form of bays, like many of the bays we have got in other lakes.

Q. Now, this light line that appears to be water here connecting Spirit Lake with the St. Louis River, do you know whether that was cut by men?

A. Yes, I remember when it was cut.

Q. Do you remember about when it was?

A. Somewhere along about 1885 or '6, something like that.

Q. Now, what is the fact, if you know, with reference to whether the bottom of these bays was shifting, changing from time to time, filling up?

A. They were more or less shifting; I know they were because I have seen this blocked up with timber down here, so you could not get through there with a sail boat.

Q. The point you are referring to is——

A. Between Big Island and the lower end of Spirit Lake.

Q. You have seen that blocked up with timber?

325 A. Yes, so that small boats could not get through. It was all shallow water, the whole of that.

Q. Is that true to a greater or less extent in the waters just below that, down to Grassy Point?

A. I should think so. I have been in there duck shooting and frogging around there many times.

Q. Were these waters just above and just below Grassy Point commonly known in those days as upper and lower St. Louis Bay?

A. Yes, I think that was the term that it was known by in those days, and they are known as that now.

(A map bearing the heading "Birdseye View Superior, Wisconsin—The New Steel Center" was marked Minnesota Exhibit 17.)

Q. Calling your attention to a plat or chart which has been marked Minnesota Exhibit 17, and which I take it might be characterized as a view of these waters as seen by Wisconsin, I will ask you if that is a substantially correct representation of these waters in question from the Superior entry up to somewhat above the mouth of the St. Louis River, so far as form is concerned of the bays and the bodies of water.

A. It looks like a good picture of it. I never saw that before.

Q. You never saw that before this morning?

A. No.

Q. Suppose we just mark it on here. Would this point, at which my pen is now and which I will mark A, represent the lower end of Grassy Point?

A. Yes.

Q. And would this which I mark B fairly represent Big Island?

A. It is not the shape of it, but it is about where it is.

Q. The location of it?

A. Yes.

326 Q. And this which I mark C, would that represent Spirit Lake?

A. Yes, sir.

Q. And would this which I will mark D represent about where you say the mouth of the river is——

A. Yes, sir.

Q. — and was known?

A. Yes, sir.

Q. The waters which I will mark E, is that what is known as upper St. Louis Bay?

A. Yes, sir.

Q. And what I mark F as lower St. Louis Bay?

A. Yes, sir.

Q. And Superior Bay would be these waters which are marked Superior harbor on the map?

A. Yes.

Q. And what is called the Superior entry, is that the point which I will mark G?

A. Yes, as it is now. It used to shift around a little in the early day.

Q. That was a shifting——

A. The whole formation there; the old lighthouse is away from where the original channel was there.

Q. To what extent was there shifting out there?

A. I should think several hundred feet anyway.

Q. What do you mean by that? Several hundred feet where the opening was?

A. The erosion from the point.

Q. Just what do you mean by that? Was it several hundred feet wider at times than others.

A. Wider at times than at others. We would come to anchor there, and we would come in here and sound and be looking for that channel maybe a whole day before we would find it, to get in and out.

Q. Is it true that there was a very great difference in the  
327 depth of the waters at that point from time to time, in a given place?

A. It would have a different course, and we used to have great floods in those days that would erode and tear out and send timber down. I have seen timber 50 miles below the mouth of this, the lake full of it, that came out of the river; even some of the islands in here, floating islands, pieces of them. I have met an island out of Duluth harbor, after this channel was cut, down the lake 10 or 15 miles.

Q. That is, you refer to this channel, the Duluth channel?

A. Yes.

Q. Suppose I mark that. The point I mark II, is what is known as the Duluth canal?

A. Yes, sir.

Q. And when was that cut, about?

A. 1871, I think. No, 1872 or '3.

Q. Well, I think there has been some evidence in here of about 1870. It is not specially important. It was cut along in the early '70's anyway, was it, as you remember?

A. It was opened in 1871, I think, first opened.

Q. I guess while we are about it we might as well have a few more marks on here. Does the projection of land which I will mark I represent Rice's Point?

A. Yes, sir.

Q. And just opposite that where I mark K, does that represent Connor's Point?

A. Yes, sir.

Q. What kind of formation is this Minnesota Point which is between the point I have marked H, the Duluth ship canal, and G the Superior entry? What is the formation?

328 A. I have seen another point outside of that; I have been on the hills here and saw, in the spring of the year, the ice leave and go away to the eastward for a number of days, and we thought navigation opened. A big northeaster would come and send the ice back, and the ice would ground outside of Minnesota Point and be aground there until away along in May, and the erosion of the ice by the waves and the action of the waves throwing the sand up onto the ice would be such that we would have another row, a point like Minnesota point, and I have often thought of it seriously, and I believe the formation of all the points to the head of the lakes have been of the same character. The Apostle Islands, the south

shore of the lake, is a sandstone formation, of a very soft character, the ice and waves disintegrating, the action of the waves carrying it westward, is one of these bars I have seen form outside of Minnesota Point and gives evidence of its forming all the different layers of bars up through the river, the clay mixing with the surrounding land on both the north and south side of the upper end of the lake, being of clay formation, and the sand wearing from the Apostles and the sandstone formation working up and forming with the clays have made all of these islands and flat portion of what was one day the west end of Lake Superior.

Q. Then, your idea is that these various little strips of land going out into the lake, like Minnesota Point, Rice's Point, Connor's Point, Grassy Point, and some of these farther up even, were simply deposits in the body of the lake by reason of these washings that you speak of?

329 A. The erosion from above and the washings of the sand by the action of the waves meeting them.

Q. And that there is also another point forming farther out in the lake beyond Minnesota Point?

A. The sandbars are what would under the same conditions form another point.

Mr. Bailey: I offer Minnesota Exhibit 17 in evidence.

Mr. Gard: Objected to as incompetent, immaterial and not the best evidence.

The Commissioner: Received.

Q. Do you know whether the waters of these bays, and extending clear up to Fond du Lac, are of substantially the same level as the waters of the main body of Lake Superior?

A. Yes, sir.

Q. Do you know anything about whether there are tides in these bays and how far up they extend?

A. I have given that great study, agitating a breakwater for protecting the entrance to the harbor. There is an enclosure I think of about 20 square miles of territory inside here.

Q. Inside Minnesota Point?

A. Yes, sir. There are two gaps through the point that are about 350 feet wide, an average of the two about 700 feet wide. Lake Superior is affected not by tides as known, but by fluctuations caused by wind pressure or barometer pressure to some extent. The water in the lake will rise outside in the lake, maybe a couple of feet in extreme cases, fluctuate like the water in a bathtub, as you see. This occurs in all our lakes. It occurs more in the west end of the lake than any other point that I know of, because of its peculiar formation, the finger-mark of the west end of the Great Lakes,

330 with a great, long 400 miles sweep. That fluctuation, with the water rising one, two or maybe three feet in the lake, which it may do in a few minutes or in one or two hours and will remain there for a little; then it will recede maybe at the same rate of speed, or faster. As this great body outside rises and lowers and this orifice of the two orifices let this water into the enclosure of 20

or more miles inside, it is affected in the same ratio that these orifices will admit either in-flow or out-flow from this enclosure inside. That extends up to about the point I referred to as the beginning of the river.

Q. You have just mentioned incidentally there that you have given considerable attention to the feasibility and desirability of constructing a breakwater outside of Minnesota Point, have you not?

A. Yes, sir.

Q. And you have made studies of the rise and fall of the lake in that connection?

A. Yes, sir.

Q. And you know that this rise and fall does occur from some reason anyway, whatever it is?

A. Well, we are almost certain of the reasons.

Q. Well, you know it does rise and fall?

A. Yes, sir.

Q. And extends up to the point you have stated?

A. Yes. I have known a current of water running through these entries of six or seven miles an hour in and six or seven miles an hour out.

Q. This area that you speak of, 20 or 22 miles—was it?

A. Well, it is over 20 miles.

Q. That refers to the area of the bays that you have described?

331 A. Yes, sir.

Q. That is Superior Bay, upper and lower St. Louis Bay?

A. Yes, sir.

Cross-examination.

By Mr. Gard:

Q. Captain McDougall, you say you first came in the Superior entry in 1863; is that right?

A. I think so; I think we got in there; I was on the lake, I know, at that time.

Q. You had been running on the lake as a captain, had you, then?

A. Not at that time; no, sir.

Q. But you had been running on a vessel, had you?

A. Yes, sir.

Q. What vessel had you been running on then?

A. Well, I was on different vessels before that; commenced as a deck hand on one and worked up to be second mate on this one of the finest steamers on the lake, in 1863.

Q. How often did that steamer visit the head of the lakes?

A. Now that I could not answer.

Q. Just approximately, Captain.

A. About once or twice a year, not more than that. Some years I think I did not come in, that we did not come as far as Superior.

Q. Was there very little navigation at the head of the lakes here prior to 1863, or not?

A. Well, very little.

Q. Very little?

A. Not up to Duluth, no. There was no Duluth then.

Q. When do you understand that navigation at the head of the lakes here began? That is, you may exclude the Indian canoe.

332 A. Oh, I should think vessels moved around up here, small vessels, as early as 1850, possibly 1847, small sailing vessels.

Q. Was there any settlement here in 1847—white settlement?

A. I think not. I was not here then, but my recollection of the history of the country would indicate 1850 as an early beginning of white men here.

Q. The first white settlement then, you understand, was in the early '50's?

A. Yes, sir.

Q. At the head of the lakes?

A. Yes, sir.

Q. Do you know of any occasion for boats to come up here before that time?

A. The canal was finished in 1855 and——

Q. By the canal you mean what?

A. The Sault canal, the connection from the lower lakes. The only vessel here was one steamer, I think it was called the Independence, that was portaged across at the Sault, she was taken across the land at the Sault, and she ran a while on Lake Superior and I think made one or two trips, possibly a few trips to the head of the lakes, to Ontonagon and probably to where Superior is now.

Q. How early was that boat brought on to Lake Superior?

A. Oh, I think along about in 1850.

Q. And is that the first boat you knew or you think was on Lake Superior?

A. There were some small sailing vessels.

Q. That was a steamboat?

A. That was a steamboat.

Q. And was that the first steamboat that you think was on Lake Superior?

A. My recollection of it now is that it is; yes, sir.

Q. And that was about 1850, you think?

A. I think so; yes, sir.

333 Q. And do you know how much water that boat drew?

A. No, I should think not; but I should think 6 or 7 feet.

Q. Then you say the Sault canal was completed in 1855?

A. Yes, sir.

Q. What draught boats did that permit to come up in to Lake Superior?

A. About 7 or 8 feet. The full canal draught I think was 9 feet, but the fluctuation would reduce the depth.

Q. Now, you say you came to Superior or to the head of the lakes between 1863 and 1868 about once a year?

A. I think so; yes, sir; or possibly some years I did not come. I think some years I did not come, there was so little business here.

Q. Very little occasion to come here then, I suppose, with boats?

A. Very little, if any, business, yes.

Q. And you moved to Duluth, you say, in 1871?

A. Yes, sir.

Q. And have resided in Duluth since that time?

A. Yes, sir.

Q. Now to what extent, Captain McDougall, have you navigated the waters above Grassy Point?

A. I would think 100 times at least.

Q. And on what kind of a boat?

A. Generally with some small yacht, tug, or sail boat.

Q. What tug did you use?

A. I have had two of my own here, called the Riverside, I think it was, and another one the Highland; there is one of the boats in the harbor here now. But I have had more small boat trips than I have had——

Q. Your navigation, then, above Grassy Point was principally with light draught boats?

A. Yes, sir.

Q. How much water would they draw? What do you  
334 mean by light draught boats?

A. Oh, 5 or 6 feet; not more than that.

Q. And you say you always used the Bayfield chart?

A. Well, I did not use the Bayfield chart much to go up the river with; used it on Lake Superior.

Q. You used that on Lake Superior?

A. Yes, sir.

Q. Did you use any chart going up the river?

A. I have made reference to the Bayfield chart in locating the soundings on it, to see the channel; at least I think so.

Q. You went by the Bayfield chart, did you, in navigating the waters of St. Louis Bay and the river?

A. Well, not necessarily altogether that; I would give reference to it. I used to hunt and fish around here, all we could get opportunity to. I imagine I knew that river about as well as anybody in those days.

Q. You say in your navigation of the waters about Grassy Point you always took what was known as the cut-off or the channel south of Big Island?

A. Yes, sir.

Q. Was that the channel that you invariably took in going up the river and coming back?

A. Yes, sir.

Q. Never was around north of Big Island in the boat?

A. I presume I have been around there duck shooting and trapping or something of that kind.

Q. That would be with a small row-boat or sail boat?

A. Yes, sir.

Q. That drew probably 12 inches of water, and not more?

A. Probably something like that.

Q. So you could go anywhere with that kind of a boat?



A. Yes, sir.

Q. And you did not have to hunt channels, did you, with that?

335 A. No, sir, not so much.

Q. Did you operate a scow propelled by steam up the river some there?

A. I have been interested in enterprises up the river that did use scows and small draught tugs to tow them.

Q. By small draught tugs, what draught would you say they would draw?

A. Oh, about five feet I should think, probably.

Q. And when was that?

A. Well, there was some experience there from 1882, '3, '4, '5, '6, '7, '8, '9, '10.

Q. What is the deepest draught vessel that you navigated the waters with above Grassy Point?

A. I should judge about five feet.

Q. And was that the tug?

A. The tug; yes, sir.

Q. And it was in the '80's, was it, or not?

A. I have been there in the '80's with such boats; yes, sir.

Q. Were you there before the '80's with such a boat?

A. No, sir.

Q. Have you navigated the river since it was dredged?

A. Yes; sir.

Q. And in navigating the river since it was dredged, did you take the dredged channel?

A. I think probably I did; anyway that would be on passenger boats.

Q. Since the channel was dredged, did you go southerly or northerly of Big Island?

A. I think I have gone both ways since it was dredged.

Q. But before it was dredged, your navigation was southerly of the island?

A. Yes, sir.

336 Q. That was the nearer channel up the river, wasn't it?

A. Yes, and the best channel.

Q. You considered it the best channel?

A. Yes, sir.

Q. Now, Captain, you do not understand that the rise and fall of the waters of Lake Superior are caused by what we consider tidal causes, regular tidal causes? By that I mean attraction of the sun and moon.

A. No, sir, I think it is not from that cause.

Q. You think it is from the pressure, the different barometer pressures and the wind?

A. Yes, sir.

Q. Now, have you ever taken any measurements to see how far those rises and falls, which we will call tides affected the waters of the river?

A. Yes, sir; very lately.

Q. How far did you find that they affected it?

A. We are putting in a new shipbuilding plant, I guess seven or eight miles from here. I know it affected it there the day before yesterday.

Q. Did you find out how far up it affected it above that?

A. No, sir.

Q. Your shipbuilding plant is opposite Big Island, isn't it?

A. Yes, sir.

Q. On the Duluth side?

A. Yes.

Q. About what place?

A. What was formerly known as Iron-ton.

Q. It is what direction from Big Island?

A. North.

Q. Is it north or northwesterly?

A. North or northwesterly.

Q. Rather northwesterly, probably, isn't it?

A. I guess so.

337 Q. I would think so. Now, you say you have not taken measurements above that place to see whether the tide affects—

A. No, but we know from getting scows grounded up there that if we wait for the shifting of the wind the scow will come off and come away.

Q. Do you know how far that extends up the river?

A. Up to about the point I speak of.

Q. You have been to Fond du Lac frequently?

A. Yes, within two or three years.

Q. Do you know whether that rising and falling affects the water up to Fond du Lac?

A. It may a little, in extreme cases; yes, sir.

Q. Well, you never made any measurements to determine whether it does or not, did you, Captain?

A. Well, we have a certain instinct in our system that teaches us things without making measurements.

Q. Yes; and you are testifying not from measurements, but just from your observations, I understand.

A. Yes.

Q. I am not questioning your observation, Captain; I just wanted to know how you were getting at it. You say there was a shifting of the sands between Wisconsin and Minnesota Points in the early days?

A. Yes, sir.

Q. That is what is called the natural entry?

A. Yes, sir.

Q. And how deep was the water there, generally speaking?

A. Sometimes it would be 20 feet, and then it would not be over 7, maybe, when we would come back again.

338 Q. Would you have to search for the channels considerable?

A. Yes, sir.

Q. And they were varying, as I understand?

A. Yes.

Q. Now you spoke of seeing the water run in the canals and out of the canals, depending on the rise and fall of the lake levels, at this end of the lake?

A. Yes, sir.

Q. The general trend of the water of course is out, isn't it, from these inner bays here, or rivers as you call them?

A. The river is shut off by a series of dams until there will be so very little water coming now; it is confined by their storages; the fluctuation is just the same as it was previous.

Q. Well, the water that comes down the St. Louis River has to get out in the lake, hasn't it?

A. Yes, sir.

Q. And it makes a current to some extent out in the lake, doesn't it?

A. In tremendous volume during a high flood.

Q. Yes.

A. During drought very little, a very small flow of water.

Q. The water of the St. Louis River is a different color from the water of the lake, isn't it?

A. Yes, sir.

Q. What color is the water of the St. Louis?

A. About the color of beer.

Q. With muskeg or tamarack——

Mr. Bailey: That all comes from the Wisconsin side just now.

Mr. Gard: You are speaking of recent history. Before the first of July it probably came from the other side.

Mr. Hanitch: The same color on the boat, I think.

339 Q. You could observe that current of colored water out of the natural entry there for some distance out in the lake, couldn't you, in the early days?

A. In the spring.

Q. In the spring especially?

A. Not in the summer.

Q. Not in the summer. How far out could you observe the current of colored water out in the lake?

A. Oh, sometimes a mile or more.

Q. And you say you have seen driftwood, a great deal of it, float out into the lake, into the inner waters here, through the natural entry?

A. Yes.

Q. And you spoke of floating islands. They floated out of the natural entry there, did they, in the early day?

A. Yes, sir.

Q. And you say you saw one of those islands quite far out in the lake?

A. Yes, sir.

Q. How far out?

A. Oh, ten or fifteen miles—trees, large trees on them.

Q. Do you know where those islands came from, Captain?

A. They came out of Superior Bay or up the river some place; they came out of Superior Bay, that is where they came from.

Q. Did you ever trace their origin?

A. Yes, sir; I have often been aboard of them before they moved.

Q. Was not Grassy Point the source of most of those islands?

A. No, I think not, sir.

Q. Where would you say the source of them was?

A. Superior Bay.

340 Q. What part of Superior Bay?

A. Right off Duluth harbor, where it is filled with ships now.

Q. What is that?

A. In Duluth harbor, where it is full of ships now. It is where all our shipping is in Duluth harbor.

Q. Around the shore of the Duluth part of Superior bay, you mean?

A. Yes, sir.

Q. You say the Duluth canal was cut in 1871?

A. I think it was 1871; yes, sir.

Q. And there is a ship canal now from the point between Rice's and Connor's Points that extends up along near the Duluth shore or the Minnesota shore out through the Duluth canal; isn't there?

A. How is that, sir?

(The question was read by the reporter.)

Q. That is, I mean a channel which boats take in entering and leaving the harbor, out of the Duluth canal.

A. From what point?

Q. Between Rice's and Connor's Point.

A. Yes, sir.

Q. One channel going out through the Duluth entry and another one going down through the old natural entry?

A. Yes, sir.

Q. Do you know which one of them the most ships traverse?

A. No, I do not.

Q. Have you some idea?

A. I think there are more coming in and out of the Duluth channel than the other.

Q. And that is the artificial channel?

A. Yes, sir.

Q. How long has that channel been used?

A. Which channel?

341 Q. The channel on the Duluth side?

A. By tugs and small boats it has been used ever since they cut the hole in the dike. There was a dike across the harbor. That dike was built to keep the water from running out of the Duluth canal. Will a little brief history of that be objectionable?

The Commissioner: Give us the history.

Q. I think we would like to hear the history of that, Captain.

A. This poor city, in its beginning, scraped up money enough to enthruse and build and open that canal. Some of the people interested in Superior thought it would be better to stop us from going ahead, and they insisted that if we opened this canal that it would destroy the outlet by way of Superior and the waters of St. Louis River would run out through here and block them down there; and the people of Duluth raised money enough, poor and all as they were, to build a dike so as to keep the waters from going through the Duluth entry when the canal was completed. After it was done, the dike, complete, the only communication then between Superior and Duluth was around the lake. In stormy weather they could not make that trip. They had gone before Congress and compelled us to put in this dike, and when they found that it was a great inconvenience they went to Congress and made us pull down the dike, so they could go across the dike from Duluth to Superior in the harbor proper. They had a better pull with Congress than we had in those days, and they put us to great expense and great annoyance, and particularly in that. The channel then was dug through  
 342 from Superior to Duluth. It made no difference in the flow—in or out of the Superior entry; it was just the same as it was originally and is now and ever will be, caused by the rise and fall of Lake Superior, the current of the water up and down.

Q. Is it your understanding that Congress ordered that dike to be taken out?

A. I understand that that was the condition; yes, sir.

Q. Can you refer to any action of Congress to indicate that or ordering that dike to be taken out?

A. Well, I cannot now, but I am thoroughly impressed with the idea that that was so—they compelled us to put it there and they compelled us to take it down.

Q. As a matter of fact it was blasted out, wasn't it?

A. No, sir, not at first. First there was a cut in it.

Q. Are you a little partisan towards Duluth, Captain, in your feeling?

A. I have lived here and I have worked in Superior; I have been appointed chairman of the joint commission to go and get harbor appropriations, and with success. I have gone and argued before Congress for fair and equitable division of harbor appropriations and succeeded in getting a four-million-dollar appropriation for this joint harbor, equally and agreeably divided up.

Q. That was when you had some interests in Superior, was it?

A. I have large interests on the Wisconsin side now; I own more land in Wisconsin than I do in Minnesota.

343 Q. That is down in the country, is it not, Douglas County?

A. Yes.

Q. How?

A. Yes, sir.

Q. You do not own any land in Superior, do you?

A. Not a great deal, no.

Q. What?

A. No.

Q. Your land is down on the Brule River?

A. Yes, sir, I have got some there.

Q. That is the nearest land you have to Superior, isn't it?

A. Yes, that is the nearest to Superior.

Q. Now, Captain, you spoke of the formation of these points, and I want to see if I can get your thought. Is it your thought that the points—we will take Minnesota Point for the present—was formed by the washings that came down the river, being carried out until the outgoing water met the incoming tide from the lake and formed an eddy or stilled the water, so as to give it an opportunity to settle, and the sediment did settle at that particular place? Is that in general your idea?

A. Yes, sir.

Q. That is the idea I got.

A. When I first came to the head of the lakes I saw the sand dunes that we had on Connor's Point and also on Rice's Point; both of those points had sand dunes, I think, when I first came here.

Q. But your idea is that the out-tendency of the river water, the water from the river, at a certain point meets the incoming tendency of the water from the lake and neutralizes the currents, so that the sediment settles at that particular place; is that right?

344 A. To some extent that is.

Q. And those places have been at successive points, have they? for instance, Grassy Point and Connor's Point and Minnesota Point.

A. I think they have all been trying to meet each other at times in the past, all the way up.

Q. Which do you consider was formed first—Rice's Point or Minnesota Point?

A. First?

Q. Yes.

A. Oh, Rice's Point.

Q. Which do you consider was formed first—Grassy Point or Rice's Point?

A. Grassy Point or Rice's Point?

Q. Yes.

A. Grassy Point was formed first.

Q. Grassy Point. Is that the farthest point up the river that is formed in that way, you think?

A. No, I think it formed around Spirit Lake just the same.

Q. Any farther up that you observed the same kind of formation?

A. Possibly more bars farther up in an earlier day.

Q. That formation was all made before you knew anything about it?

A. Yes, sir.

Q. Is it practically the same now as it was when you came here?

A. Some slight changes.

Q. What changes do you refer to?

A. More of the sediment filling in the bays and moving it around. The clay formation comes down and is a long while settling.

Q. Now, Captain, did you ever hear of the place between Minnesota Point and Wisconsin Point as being called——

A. Sir?

Q. Did you ever hear the waters between Wisconsin Point  
345 and Minnesota Point referred to as the mouth of the St. Louis River?

A. I did not get that.

Q. The waters between Wisconsin and Minnesota Points, referred to as the mouth of the St. Louis River?

A. I have heard of it as the entry.

Q. Have you heard it referred to as the mouth of the St. Louis River?

A. Oh, possibly I may have, but it is generally called the entry.

Q. Yes. You have seen maps, haven't you, that are marked the mouth of the St. Louis River?

A. Possibly I have. It is always known as the entry.

Q. Are you familiar with the channel, the original channel, after you come through the entry into the bay?

A. As it is now?

Q. No, the original.

A. Well, I have a fairly good idea of it; yes, sir.

Q. There was a channel up Superior Bay there, wasn't there?

A. There was a wide channel that was sometimes—well, I guess always was pretty wide and some points a little narrower than it was in other places. It was not a regular channel. It was a deeper part of the bay, that is all.

Q. Well, it extended all the way up to Rice's and Connor's Point, didn't it?

A. Yes, I think about nine or ten feet.

Q. I now show you Wisconsin Exhibit 1, which is the Meade chart.

A. Yes, sir.

Q. And I will ask you to observe this chart from the  
346 natural entry up to the point between Connor's and Rice's Point, and see if you observe on that map a channel.

A. Yes, it indicates a channel there, but my recollection is that in the early days it was mighty hard to find. This chart was issued in 1861.

Q. The survey was made in 1861 Captain; around there.

A. Yes.

Q. But you have no reason to think that this chart is incorrect, have you?

A. No, but it was so little known in those days that I know we were glad to land there in place of trying to find our way——

Q. You say you were glad to land there? You mean near the Superior lighthouse?

A. Yes, right there.

Q. That is, at the lighthouse at the Superior entry?

A. Yes; we used to come in here once in a while.

Q. That is at the——

A. At the old Quebec wharf.



Q. That is at Old Superior. Q. Was it difficult to get over there?

A. Well, it was pretty hard to find the entrance there; in those days things were not buoyed as they are now.

Q. Did you sail up the St. Louis Bay considerable?

A. My earliest recollection was coming in here, and we could not find this; we got to Connor's Point; we landed here some place at Connor's Point.

Q. Now just a moment, Captain. I want to get this on the record. Your earliest recollection, you say you came in here. You mean the entry?

A. Yes, sir.

Q. And where did you go from the entry?

347 A. Well, possibly the first time it may have been to the Quebec wharf.

Q. Before the channel was dredged did you sail up the Superior Bay very much?

A. I might have some before there was any dredging there.

Q. You had to hunt for a channel, didn't you?

A. Yes, we had to grope around to find it.

Q. It was not marked then?

A. Well, our boats those days only drew about nine feet of water, and we could wander about here and find a channel; no land there.

Q. That is, you landed there at Connor's Point, you say?

A. Yes, I can remember being there. Now what the year was I don't know, but it was in a very early date anyway.

Q. But with your boat you could navigate most anywhere on the bay, could you?

A. Oh, no; no, sir, not at all.

Q. Well, you say you—

A. Sometimes we could not find the channel and we would probably unload over here on the point, right about there. (Indicating.)

Q. That is a point outside of Wisconsin Point, southeasterly of the entry?

A. Yes.

Q. How far southeasterly of the entry?

A. Oh, I should think probably a quarter of a mile south of there.

Q. And you landed there for the reason you could not get through the entry?

A. That we could not find the channel.

Q. Could not find the channel?

A. No.

Q. You searched for the channel there and was unable to find it?

A. Yes, sir.

348 Q. When was that?

A. Oh, some of those years, in the '60's; '64 or '65, something like that. We used to land our freight with yawl boats, and take on our freight with yawl boats. We would have very little—maybe a few barrels of pork and a couple of barrels of whisky, and we could always get that into small boats.

Q. You used the small boats for lightering?

A. Yes.

Mr. Hanitch: More whisky than pork; Captain?

Witness: There was some pork.

Q. Now, Captain McDougall, as I understood your evidence on direct examination, you stated that you did not know of a channel marked on this Meade map H.

A. That I did not know there was one?

Q. Yes.

A. No, I did not, honestly.

Q. I just want to get it on the record; I am not questioning that you did not know it, Captain. But you stated that you did not know of the channel marked H on this map?

A. No channel marked on that map now.

Q. Will you read the soundings through that?

A. That shows a deep hole in the bay, that is all.

Q. How long is it?

A. That is not a channel.

Q. Just wait, Captain. How long is it?

Mr. Bailey: Is what?

Mr. Gard: Is the hole that he spoke of.

A. That muskrat channel——

Q. Just answer the question. How long is it?

349 A. I don't see the channel there by looking at that chart.

Q. You don't see that channel marked H there, that is, that red ink, marked H?

A. I see that H plainly enough.

Q. But you do not see the channel there?

A. I do not; no, sir.

Q. And you don't know that there was any channel there?

A. I never knew there was.

Q. Do you have any reason to question the soundings that are on this map, that purport to have been the Meade soundings?

A. I have no question but that is correct, just as stated.

Q. Just as the map shows it?

A. Yes; I think probably it was that way.

Q. Now, Captain, in your navigating the St. Louis River, when you came through the opening between Grassy Point and the Wisconsin shore, what course did you take going up the river?

A. I would take from here and come around in about like that; right around that point there used to be lots of old snags there and we used them as the beacons to show where our entry into this channel was.

Q. Could you run most anywhere in that way with the boats you used?

A. Well, no, you could not run every place, but you could keep around here in five or six or seven feet of water, in here. ((Indicating.))

The Commissioner: You have got to call the points or places, Mr. Gard, so the record will show.

Q. When you came through Grassy Point, I wish you would mark with a lead pencil just about the way you traversed.

350 A. As nearly as I recall this is what we would do. (Indicating.)

Q. Now you have made a mark there with pencil that I will mark D. That is your mark now, is it?

A. That is as nearly as I can recollect it.

Q. You ran over seven feet of water then, didn't you?

A. I suppose that would be sufficient.

Mr. Fryberger: Don't you think it would be better to put a stronger mark of some kind on it than that? It is almost indistinct.

Mr. Gard: Well, I think that shows.

Mr. Fryberger: Have you any objection to red ink?

Mr. Gard: Oh, that is leading the witness. I don't want any red mark on there.

Q. What boats did you see navigating up the St. Louis River?

A. Sir?

Q. What boats did you observe navigating up the St. Louis River? Any of them when you were up above Grassy Point?

A. Small boats?

Q. Yes, or any boats.

The Commissioner: You ought to make that some time, Mr. Gard.

Q. Well, prior to 1880.

A. Sir?

Q. Prior to 1880, what boats did you observe navigating?

A. None.

Q. You did not observe any?

A. No, prior to 1880. Just a moment. Unless it be small boats, skiffs.

Q. Just skiffs and canoes and sail boats, probably?

A. Yes.

351 Q. Then, you don't know of any boats navigating up there before 1880—of your own knowledge I am speaking—aside from these small boats you have mentioned?

A. No, I do not.

Q. After 1880, between 1880 and 1890, what boats did you observe navigating above Grassy Point? Now I mean from your own knowledge.

A. Yes. Oh, I should say there have been two or three or possibly four small tugs. There was some rafting of cordwood up in that country. The tug that would be used in that I think would be of five or six feet draught. Possibly four or five boats all told, small tow boats, would have been working up in the bay between 1880 and——

Q. I beg your pardon; between 1880 and 1890?

A. Between 1880 and 1890.

Q. I asked you between 1870 and 1880 before.

A. Two boats I had; one of them would draw about three or four feet, and the other one about five feet.

Q. You say you think you have been up there about one hundred times?

A. Well, a hundred times is a great many times. I have certainly been up there fifty times.

Q. And most of them was in very light draught boats?

A. Yes, sir.

Q. Were you guided somewhat in your navigation of the waters up there by the rushes?

A. Very often; yes, sir.

Q. The rushes afforded you a pretty good guide, didn't they?

A. Yes, sir.

Q. That is, the rushes will come up on the shallow water, won't they?

352 A. That is right.

Q. And you avoid the rush beds?

A. Yes, sir.

Q. Aside from the rush beds, you could navigate with the boats you used most any part of the water above Grassy Point and Big Island and outside of Pokegama Bay, couldn't you?

A. No, it would be better to know the channel and know where that channel was up south of the island. I always supposed there was no channel on the other side.

Q. How long or until what date were you under the impression that there was no channel on the north side of Big Island?

A. I think until the government went in and dug out the channel there.

Q. That was along about 1889 and 1890?

A. Yes, I should think the first opening was made about that.

Q. Captain, you spoke about the Bayfield chart being remarkably accurate for the way it was made. Do you know how it was made?

A. Sir?

Q. Do you know how the Bayfield chart was made?

A. As I know it, it was made by soundings and the work of a Lieutenant Bayfield on board of a sailing ship, with small boats to get the detail reckonings. The work lasted, I think, for two or three years.

Q. You did not know personally of their work, did you?

A. No. That was done long before I was born.

Q. How did you get this information, Captain?

353 A. Well, I have got it through conversation with men who have probably read up on the history pertaining to this survey. It has been looked upon as one of the most wonderful works for the time that was spent on it and the apparatus to accomplish it.

Q. Captain Bayfield was a British—

A. A British officer.

Q. A British officer?

A. Yes, sir.

Q. I only ask you for information: Do you know how he came to chart the waters of this harbor here?

A. I think it was before the division of the boundary line between Canada and the United States was established, known as the North-west Angle.

Q. I had that impression, but I didn't know whether it was correct or not. Probably thought he was charting British waters then.

A. British waters.

Q. It was made in the '20's, I guess; wasn't it?

A. I think it was in the '30's.

Mr. Fryberger: What chart is that?

Witness: The Bayfield chart.

Mr. Bailey: It shows on here '23 and '25 when it was made.

Witness: Oh, yes.

Q. Do you know how long Captain Bayfield was here at the head of the lakes?

A. No, sir.

Q. You never heard any testimony here on that?

A. No, sir.

Q. But you did hear that he made it in a remarkably short time, as I understand it?

A. Yes, I always understood that from data that I had received at times. It being the only chart we had in those days, we used to study it a great deal and hear a good deal of it, in fact they  
354 were hard to get. A man that had a Bayfield chart was well off in navigation in those days.

Q. You studied it for the navigation of the lake?

A. Yes.

Q. On that map it is marked "Track Survey". Do you know what that means?

A. Deeper track?

Q. No, it is marked "Track Survey". Do you know what that "Track Survey" means? (Placing map before the witness.) I am showing you Minnesota Exhibit 7, and refer you to the words "Track Survey of the River St. Louis by M. Phillip, Ed Collins, M. D., under the direction of Lieutenant W. H. Bayfield, R. N." Now do you know what that "Track Survey" indicates?

A. I should infer that it would mean where it was personal to his knowledge, that he had been on the track and saw it; that he had done it personally. I should imagine that. A man that makes the track——

Q. Now you see that he gave soundings of just one line up the bays and river here?

A. Yes, sir.

Q. Do you think it could mean that he just surveyed one track?

A. I think he got much of his information from the natives that were here and took their view of the channel in that bay.

Q. You do not think that he got those soundings from the natives, do you?

A. No, I think he made those personally.

Q. And you see there is just one line of soundings, don't you?

A. Yes.

Q. He does not sound clear across—that is, the soundings do not show clear across the bay, do they?

A. No.

Q. Just one line up the bays and the river?

A. Yes.

Q. Now do you think that that Track Survey does not  
355 refer to just that as a track?

A. No, it is quite visible that it was a track there.

Q. What I am getting at is, do you consider that that track there refers to that as a track, or do you consider that it refers to the fact that he made it himself personally on the track?

A. Well, I should infer that that is what was meant.

Q. The latter; that is, that he was on the track personally?

A. Yes.

Q. You don't know, I suppose; only just your guess, is it?

A. It is such a chart as I would make if I made that trip.

Q. Yes; but you don't know what the word "Track" really means, do you?

A. I do not; no, sir.

Re-direct examination.

By Mr. Bailey:

Q. Referring further to this Minnesota Exhibit 7, I will ask you if this line of soundings from Grassy Point up, at any rate, appearing on the exhibit, and up through beyond Spirit Lake, is substantially identical with the line of traffic as it passed up and down in the early days?

A. You mean prior to the digging by the government on the other side?

Q. Yes, and from the earliest days that you know anything about it, up until the channel was dug out by the government.

A. Yes, sir.

Q. And that was the main navigated and navigable channel?

A. So far as I know; yes, sir.

Q. Captain, do you know anything about as to whether in  
356 the early days, at any time or times, the waters of the lake passed practically across Minnesota Point?

A. In severe storms it did breach through, yes.

Q. The whole of Minnesota Point is, as a matter of fact, very low; that is, only a few feet above the level of the lake, is it not?

A. Yes, sir, but—

Q. Except where there are sand dunes, or something of that sort?

A. In the south end of the point it has breached through there at times, that I know of.

Q. How about up here just below the Duluth ship canal? Is there any time when the storm carries the waters of the lake clear across there?

A. Not that I know of.

Q. Would they go substantially across, do you know?

A. Sir?

Q. Would they go almost across, do you know, at any time?

A. Well, in high water and big waves they have washed up on top of it.

Q. You spoke about being interested in shipbuilding up at the Iron-ton plant. Is there anything in that that affects you financially either way so far as this case is concerned?

A. Not at all. The little property we have is Torrens'd, and we have no interest in this whatever. I do not know who the people are that are working on this case; I do not know the meaning of it.

Examined by the Commissioner:

Q. Is the Minnesota Point in substantially the same condition that it was when you first came up here?

A. Except the end, except the gap that was cut into it for the Duluth entry, and the erosion of the lower end of Minnesota Point.

357 Q. Do you know where the old lighthouse stands at the south end of the point?

A. Yes.

Q. What is the fact as to whether that was built at the end of the point at the time it was put up?

A. My recollection of it is it was exactly at the end, that we used to pass very close to it.

Q. Then, the entry was very much wider then than it is now through the piers there?

A. Yes, it was wide.

Q. About how wide was it, do you know, between the Wisconsin Point and the end of the Minnesota Point at that time. Oh, approximately, as near as you can tell.

A. I should judge sometimes it might have been a quarter of a mile wide there.

Q. Was there a well-defined channel through there, or was that a shifting channel?

A. A shifting channel; yes, sir.

Q. Do you remember when what we call the old piers were built, the first piers?

A. I remember about that time.

Q. About when were they built?

A. I cannot be positive. They were on one side only. I think there was pier room on one side only.

Q. On which side?

A. That would be the south side.

Q. Near the Wisconsin point?

A. Yes.

Q. Was that built close up to the Wisconsin Point or out some distance from it? What is the fact?

A. Well, I cannot place that in my mind. I was second mate and



mate afterwards of boats coming this way, and it was my duty to jump into the yawl boat to find and sound the channel, I know that—and I was good at it too.

358 Q. That was before the pier was built?

A. Yes.

Q. Did the building of the pier have any effect on the settling of it, do you know, or did it wander after that until the second pier was built?

A. I could not give clear information on that.

Q. Now, what is the fact as to whether there was timber growing on the Minnesota point from, say, about where the old lighthouse is built, up to the Duluth canal, at the time you first came up here?

A. Well, I should imagine—I think there was; the timber came pretty close to the lighthouse.

Q. Is that timber still standing there?

A. No. I think there are a few trees in there yet, not far from the lighthouse.

Q. Well, there is considerable timber stretched all along clear up as far as the Narrows, up there on the Minnesota Point?

A. Yes, sir.

Q. Has that materially changed since that time, or not?

A. Oh, it is being reduced all the time by cutting and men firing and destroying stuff more or less.

Q. Now, have you noticed whether or not the Minnesota Point is becoming wider down at the south end, in later years?

A. No, I could not say much on that. I would think there is very little change, only where the erosion may be from one or two of the big storms of some twenty years ago.

Q. Do you remember what year the lighthouse was built? I mean the old lighthouse.

A. No, I do not.

Q. Let me refresh your recollection a little bit.

A. No, I could not remember.

359 Q. Do you know whether it was built before the Civil War?

A. I think it was. Oh, yes, it was built before the Civil War, or about the time of the Civil War.

Q. That is still standing just as it was when it was built?

A. Well, there is a part of the foundation standing there.

Q. It is still conspicuous?

A. I believe so: I have not been over there very recently.

Examined by Mr. Bailey:

Q. Do you know, Captain, the place called "The Barrens" down there on Minnesota Point?

A. The what?

Q. The Barrens, down there on Minnesota Point. Do you know that place?

A. No.

Q. Do you know whether there is a place down there where they have to build cribbing to keep the waters from washing across?

A. That is where the Government did the riprapping to protect it?

Q. Yes, I presume so.

A. Yes, the Government has done a lot of protection down there or it would have been eroded through long ago.

Q. Where was that—about the center of the point?

A. I think it is about two-thirds the length of the point, southerly.

Q. Two-thirds the distance as you start from Minnesota?

A. Yes, I think so.

Q. And you say that would have been washed through there long ago if it had not been for doing that?

A. Well, I was afraid it would have happened.

360 Q. Did the waters wash across there in case of storms?

A. I think it did; yes, sir.

Examined by the Commissioner:

Q. There is one other question I wanted to ask you, Captain,—whether there is a periodical rising and lowering of the water in Lake Superior every two or three years or so, any uniform movement up and down.

A. That is not very great, I think not much more than twelve or eighteen inches. That is regulated by the rainfall of the Lake Superior basin, regulated by the greatness of that, and the erosion through the gap at the outlet; that has been pilfered with by the water power companies on both sides. They have rights from both governments to use the water of the lake as a reservoir, and in damming the river by coffer dams and other obstructions since these improvements—that and railway abutments have affected the lake considerably. Last year we had a foot and a half or a foot to a foot and a half rise caused by some of their actions, and after their attention was called to it, to the fact they were doing this great damage by destroying property here, they have got it now under better regulation and is governed by an international commission, to govern the levels of Lake Superior in the future.

Q. You think that is controlled by artificial causes rather than natural causes?

A. The changes that come now are caused—the changes of fluctuation are caused from natural causes, but these other causes of rise in the water last year and the year before, and to some extent this year, are from artificial causes.

361 By Mr. Gard:

Q. That artificial cause just began, then, two years ago, as I understand it?

A. Well, it began twenty years ago, more or less; it has been affected as these improvements went on. Winter ice would accumulate around these improvements and choke the water, and its outflow was not as great as the original orifice or outflow.

Q. Is it or is it not true, Captain, that it is the intention to control artificially the height of the water in the lake from now on?

A. Yes, sir.

Mr. Gard: That is all.

(A recess was here taken until two o'clock P. M.)

362 FRANK A. BREWER was called as a witness by the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Brewer, you are a resident of the City of Duluth?

A. Yes, sir.

Q. And have been for how long?

A. Since 1880.

Q. You were a member of the Dupcan & Brewer Lumber Company?

A. Yes, sir.

Q. How old were you when you came to Duluth, Mr. Brewer?

A. I was born in 1854; I would be 36.

Q. You are at the present time president of the Board of Education of the City of Duluth, are you?

A. Yes, sir.

Q. And have been for how long?

A. Two years.

Q. You are also president of the Duluth Crushed Stone Company, are you?

A. Yes, sir.

Q. When you first came to Duluth what was your business?

A. Lumber business, manufacturing and logging.

Q. Where was your mill located?

A. In the first ten years we were here we were sawing at R. A. Gray's mill and for a couple years at what was known as the Peck mill. They were both built to manufacture lumber for our firm or our company.

Q. What I mean is, about where were you located?

A. On Rice's Point.

Q. On Rice's Point?

363 A. On Rice's Point. Afterwards we built them out in the bay, in 1890, at the foot of Thirty-ninth Avenue West.

Q. That is in Oneota, isn't it?

A. Yes, sir.

Q. Now, in the '80's right after you came here, did you get all or part of your logs down the St. Louis River and through the bays to your mills?

A. Yes, sir.

Q. Did you have any other traffic up and down these waters, the upper and lower St. Louis bay and the St. Louis River?

A. Not that I remember of.

Q. Well, did you have any tugs or boats?

A. We employed tugs for doing the work, for the towing of logs.

Q. Did you yourself have to do with the navigation of these waters?

A. I do not just understand that question.

Q. Well, I mean were you yourself operating a boat?

A. No, sir.

Q. But you were familiar with the navigation of the waters?

A. Yes, sir.

Q. And the course which navigation took through these waters?

A. Yes, sir.

Q. And had your logs towed down the waters by these tugs?

A. Yes, sir.

Q. Now, what in the early days of your recollection, and from then on down, has been known as the mouth of the St. Louis River? What do you understand it to be, what point?

A. Well, I understood the mouth of the St. Louis River would end about where what is known as the upper St. Louis Bay started.

364 Q. That is, just about where the waters divide there above Big Island?

A. Yes, sir.

Q. And have you during all of this time—I will ask you whether or not you have—known the waters between Rice's Point and the upper end of Big Island as upper and lower St. Louis Bay?

A. Yes, sir.

Q. What do you consider these waters—an arm of the lake, or bay, or river, or what?

Mr. Hudson: That is objected to as leading.

Mr. Bailey: They are an arm of the lake, bay, river, or what? is that leading?

Mr. Hudson: Well, I thought you were going to say arm of the lake, and stop.

Mr. Bailey: Counsel suggested a good place to stop, but then I didn't do it.

A. I would consider it more a part of the lake than I would a part of the river.

Q. Calling your attention to Minnesota Exhibit 3, will you tell us what the navigable and navigated main channel was from Rice's Point going up towards Fond du Lac, in the days of your earliest recollection, and before the government channel was dredged out?

A. The course that was usually followed by boats from about south of Grassy Point; there were two channels there that they usually followed; they usually followed this channel here, or very close to that; that was the one that was more in common use.

365 Q. The one you have pointed to is substantially the red line marked A-E-G-B-D, is it?

A. Yes, sir.

Q. And then on up southerly of Big Island?

A. Southerly of Big Island.

Q. And what was the other channel that you say was sometimes followed?

A. What we knew as the north channel was from this letter B and C through very close to this channel here.

Q. That is, you mean, on the red line from B to C?

A. Very close to that red line as nearly as I can remember it.

Q. And then on up north of Big Island?

A. Yes, sir.

Q. Now would the course used twist around in here just westerly of Grassy Point on a line marked H, except when people were going to Milford or to some point on that line?

A. I never saw it used.

Q. You never saw it used?

A. No, sir.

Q. Do you know whether there was a shoal place or bar at the westerly end of that light-colored line marked H, shallow water?

A. I know that we had logs frequently in this upper bay here and the lower bay, right in there (indicating); we had logs in those two bays there.

Q. The one that you are referring to is the bay marked "City Slip—Est. 1909," and the one just westerly of that and the one just easterly of that first?

A. Yes, sir. And I know that in getting logs out of these bays we came out and used this same channel coming down through here. (Indicating).

Q. That is, you refer to the channel marked C-B-G-E-A?

A. Yes, sir.

366 Q. Do you know, Mr. Brewer, whether the bottom in this so-called upper St. Louis Bay was changing from time to time, so far as soundings were concerned?

A. From the experience I had I know that it changed; we used to find that it changed up here around Spirit Lake entrance, up in here.

Q. That is, where Spirit Lake comes close to Big Island?

A. Yes, sir, comes close to Big Island.

Q. Did it change to a very appreciable extent at that point?

A. It changed enough so you would notice it, and we had to make new soundings there in doing work there.

Q. In your opinion was the bottom changed farther down in upper St. Louis Bay, only to a less marked extent?

A. I never discovered it changing as much as it did in there, because I had more work to do in that vicinity.

Mr. Fryberger: "In there"—to what do you refer?

Witness: In around by what would be the Spirit Lake dock and just below there, down towards Ironton.

Q. Do you know about there being tides in these waters?

A. I know there used to be a rise and fall of the water.

Q. Periodically, was it?

A. Why, I never discovered there was anything regular to it, but it was quite a tide there.

Q. Would logs left in there flow both ways, according to the rise and fall of the water?

A. Yes, sir. And of course the wind had a good deal to do with the rise and fall of the water—the northwest wind.

Q. Have you some maps with you, Mr. Brewer?

367 A. I have a map and a chart book that I used to use a good deal.

Q. St. Louis County map?

A. There is a St. Louis County map that I brought here.

Q. Where is that?

A. I gave it to you yesterday.

(A map was marked Minnesota Exhibit 18.)

Q. Showing you a map which the reporter has marked Minnesota Exhibit 18, I will ask you if that is a map which has been in your possession for some time.

A. Yes, sir.

Q. Now, I see that there is a splice in this at township 60, and the top part of it has marked on it "New Addition 1902." Do you know how long you have had that top part?

A. Since 1902.

Q. Now, about the bottom part, that is, the part below this township 60, do you know how long you have had that?

A. I have had that quite a number of years, and as the later township was surveyed that was cut in, cut off, and that was added on in 1902. The lower part was in use a number of years before that in our office.

Q. Have you any idea how long before 1902?

A. I should think at least ten years.

Q. This has marked on it Duluth and Lake Superior, and the line running through there indicating the state boundary. You see that, do you?

A. Yes, sir.

Q. Was this map, the lower part of it, in common use around the head of the lakes as relating to the territory which it covers?

A. Yes, sir.

Q. Well recognized map, was it?

A. Yes, sir.

Q. And in common use?

368 A. Yes, sir.

Mr. Bailey: I offer Minnesota Exhibit 18 in evidence.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Mr. Bailey, that is a very bulky exhibit. Is there any value in the upper half of that map?

Mr. Bailey: Nothing except it shows the date the upper half was published.

The Commissioner: I would suggest that you stipulate that

fact, and cut the map in two. It might be of some value to Mr. Brewer, and probably there would be no objection.

Mr. Bailey: He can get more of them.

The Commissioner: It is very bulky, that is all.

Mr. Bailey: Oh, I think in view of the circumstances we will let it stand as it is.

The Commissioner: All right.

Mr. Bailey: I do not see how we can chop it up very well. I think we had better let it go as it is.

Q. Do you know whether the line marked on this map as indicating the state boundary was in the early days, and down to the present time, so far as you know, the recognized state boundary at the head of the lakes?

A. So far as I know, it was.

Q. And was that generally accepted by the people?

A. To the best of my knowledge it was.

Mr. Bailey: Here are some township plats that I want to put in. I cannot qualify them specially by this witness, but they are exhibits, blue-prints, that were taken from the other  
369 case.

Mr. Hudson: Let me see them.

Attorney-General Owen: They are objected to on the ground that they are incompetent, irrelevant and immaterial, but not on the ground that they are copies of the originals. (Three other blue-prints were marked Minnesota Exhibit 19, Minnesota Exhibit 20, and Minnesota Exhibit 21, respectively.)

Mr. Bailey: I will offer in evidence Minnesota Exhibits 19, 20 and 21, exhibits 19 and 21 being the government plats of township 49-15, and Exhibit 20 being government plat of township 49-14.

The Commissioner: Are those government plats, or copies of them?

Mr. Bailey: Well, these gentlemen are not going to raise any question on their being secondary evidence.

The Commissioner: I did not understand that.

Mr. Bailey: I put them in purposely that way.

Attorney-General Owen: We object to them on the ground that they are incompetent, irrelevant and immaterial, but not on the ground that they are not originals or true copies of originals.

The Commissioner: The exhibits may be received.

(A large map was marked Minnesota Exhibit 22.)

Q. Showing you paper marked Minnesota Exhibit 22, I will ask you if that is the map which has been for some years in your possession, in use in your office?

A. Yes, sir.

Q. And is that a map which was in common circulation  
370 throughout the State of Minnesota since its publication?

A. Yes, sir,



Mr. Bailey: I will offer in evidence Minnesota Exhibit 22, being a railroad map of the state.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: The exhibit is received, subject to the objection.

Q. Mr. Brewer, during the days when you were getting logs down the river, did you have some experience with logs floating back up the river?

A. Yes, sir.

Q. Just state what that was.

A. Many times we have had our booms broken open, and sometimes we thought they were open maliciously, and from the opening of those booms we had logs scattered all over the two bays, had them scattered in Superior Bay sometimes, and had them scattered up in what was known as the upper St. Louis, and also St. Louis Bay, and found logs with our lake marks on as far as Spirit Lake and up in the Pokegama.

Q. You say your lake marks on. What do you mean by that?

A. In logging we have different marks for different camps, where they were put in, and we would not use the same mark in the interior here that we would use on the lake—the mark stamped on the end of the logs.

Q. You mean by your lake marks, logs that had been cut in camps further down the lake, east from Minnesota Point?

A. They had been brought to our mill and the boom  
371 opened and we would find those marks up in the upper bay.

Q. Clear up to—

A. We found them as far as Spirit Lake.

Q. Did you ever find any up as far as Fond du Lac, that you remember?

A. Not of lake marks.

Q. Did you have any trouble up there near Fond du Lac in your booms in reference to logs floating up the river and have to bring in booms to protect them at any time?

A. The Duluth Boom Company did.

Q. Well, all right. Were you connected with that company?

A. No, sir.

Q. Well, you heard about it?

A. Yes, sir.

Q. Just state what you knew about it.

A. Mr. Duncan, the senior member of our firm, was the president of the Duluth Boom Company, and they had a rafting ground and booms just below the two islands where the channel divides, just below Fond du Lac, and they had a holding ground there about a mile in length, and that was to catch logs coming down the St. Louis River, and they were separated there, the different owners' marks were separated, at the lower end, and then towed to Duluth, and at times when that boom had filled they had to make a rule there to put a crossboom on the upper end of the logs to

keep those logs from getting back up the river and coming down an open channel that was left for navigation for boats.

Q. Float back up the river?

A. Float back up the river when the water was at a normal stage.

Mr. Bailey: That is all.

Cross-examination.

By Mr. Gard:

372 Q. Mr. Brewer, how long did you say you had resided in Duluth?

A. Came here in 1880—37 years.

Q. And operated a sawmill on Rice's Point?

A. On Rice's Point and 39th Avenue West.

Q. When did you operate it at 39th Avenue West?

A. We built the mill in 1890.

Q. Then for ten years had you operated on Rice's Point?

A. Yes, sir.

Q. Between 1881 and 1890?

A. Yes, sir.

Q. What part of Rice's Point?

A. The larger part of the time was at the end of the point. Mr. Peck sawed for us two years.

Q. To what extent did you operate boats up the river?

A. To the extent of hiring them for doing our work.

Q. Do I understand—to what extent did you run on boats up the river?

A. Looking after getting of the logs to the mill. My end of the business was looking after the logging and getting logs to the mill.

Q. How often did you go up the river on boats?

A. Very frequently.

Q. What boat did you go up on?

A. Many different ones.

Q. What different ones?

A. I couldn't tell the names of them. I can tell some of them.

Q. What ones do you remember?

A. I remember the Agate and the Barrett. The Barrett was among the later ones, and the Carroll, I think, was one, the Spirit, the Nelly Cotton, and there was others I can't remember.

373 Q. How much water did they draw?

A. As I remember, from five to seven feet, seven and a half, possibly.

Q. Did you usually navigate the cut-off channel around Big Island or the northerly channel?

A. For small rafts we navigated around the island; larger rafts came down on the north side of the island.

Q. Your business that you went up on, was towing rafts?

A. Yes, sir, or towing boom sticks.

Q. Towing boom sticks and getting logs?

A. Yes, sir.

Q. In towing these boom sticks they extend back quite a distance behind the tow boat, don't they?

A. Yes, sir.

Q. You have to have something like a straight channel, or need a straight channel, or straight course to tow these boom sticks, don't you?

A. Not so much so as we do with the raft.

Q. More so with the raft, but if you get in a crooked channel the boom sticks will hug the shore and catch on the shore, won't they?

A. Oh, they will follow the tug very nicely. Of course, making a direct turn, why, you have got to be careful.

Q. You say you considered the mouth of the St. Louis River at what place, Mr. Brewer?

A. Above Big Island, about the Big Island.

Q. Is there any channel below that point?

A. Any channel?

Q. Yes, any channel below that point?

A. There was a channel that was in general use.

Q. Was there any deep channel, any river channel below that point, anything that you considered a river channel?

A. No sir.

Q. Nothing that you considered a river channel?

374 A. No, sir.

Q. Was there a deep place continuous or almost continuous down to Rice's Point?

A. Not to my knowledge.

Q. You didn't know of the deep channel between what you considered the mouth of St. Louis River down to Grassy Point?

A. I know of deep holes; I don't know of any channel.

Q. Are you acquainted with the Meade map?

A. Not by that name.

Q. Did you ever see a map, an early map with soundings on it?

A. Yes, I remember seeing one or two tugs that had maps with soundings on them.

Q. Do you remember whether you ever examined any of these maps to see if there is a channel indicated on these maps?

A. I have looked to see whether there was any continuous channel. I never found any.

Q. You didn't know of any channel, then, below the point that you considered the mouth of the St. Louis River?

A. Not any but the one that was commonly followed by tugs, going up and down the river.

Q. You state there was more than one channel that was followed?

A. Yes, sir.

Q. Was there more than one channel then?

A. There was one—there was a channel or sort of a channel they followed on the south side of the island and channel that was commonly followed on the north side.

Q. You place *of* the mouth of the river, don't you, back at the upper end of the island?

A. Just above where they divide these two channels, what you call channels.

375 Q. You don't consider, then, that there was any river channel below that, do you?

A. The one that they followed has always had an even depth.

Q. Did you consider that there were any river channels below the point at the head of Big Island, that you considered the mouth of the river?

A. There was places that was deeper than others and they followed a certain route down through there.

Q. I wish you would answer the question, whether you considered that there were river channels or a channel, river channel, below that point?

A. There was a channel that was followed, commonly followed.

Q. Did you consider it a river channel?

A. I considered it a bay channel.

Q. You considered it a bay channel; that's what you considered it?

A. Yes, sir.

Q. It was well-defined, was it?

A. None too well.

Q. Were you familiar with the waters of Superior Bay?

A. Yes, sir.

Q. Did you know of any channel in the water, that water, before there was any dredging done?

A. Yes, sir, one that was followed by the boats usually.

Q. Was that a well-defined channel?

A. Fairly well.

Q. Did you consider that a river channel?

A. No, sir, bay channel.

Q. You considered that a bay channel?

A. Yes, sir.

376 Q. Do you consider a channel one of the features of a bay?

A. Yes, sir.

Q. That is one of the features that characterizes a bay according to your idea?

A. They are channels the same as they are in the river.

Q. Why was it that you considered that the St. Louis River ended at the head of Big Island?

A. For the reason that here was no real current and the big lakes made up of different openings there, made up a sort of a bay and there was really no current that was regular when the water was at the normal stage. When the water was at extreme high stage there was quite a little current at times.

Q. Current through Grassy Point, wasn't there?

A. Only in extreme high water.

Q. No current at all at other times?

A. Not noticeable.

Q. There was a current through the natural entry out here, wasn't there?

A. As they came in and out, only as the rise by the winds, a sort of a tide that the water would back up and go——

Q. You never noticed any other current?

A. Not a continuous, regular current.

Q. Was there any general trend of the current?

A. I suppose the trend was a little more out than in.

Q. What color were the waters of the St. Louis Bay and River?

A. Sort of what is known as tamarack color, tamarack water.

Q. Have you noticed that tamarack-colored water extending in a continuous channel out into the lake some distance?

A. Yes.

Q. How far?

A. Oh, half a mile or a mile. That is only in times of  
377 high water.

Q. That would be in the spring of the year usually?

A. Highest water here is usually in June and the first of July. I have seen very high water in September.

Q. There is considerable dead water above the head of Big Island, isn't there, along the side of the St. Louis River?

A. Yes, there are some sloughs up there and some islands that separate the river.

Q. What do you consider Spirit Lake is, part of the waters of the St. Louis River or not?

A. I should say it was part of the water of St. Louis Bay.

Q. Well, you place the mouth of the St. Louis River at the head of Big Island, don't you?

A. About there.

Q. These waters are above that, are they not?

Mr. Bailey: What waters are above what?

Q. Spirit Lake.

Mr. Bailey: Above what?

Q. Above the head waters of the St. Louis River.

A. There is water up there.

Q. Above the place that you designate as the mouth of St. Louis River. Isn't Spirit Lake above that?

A. It is just about on a line with it.

Q. What do you say about Little Pokegama?

A. Little Pokegama is below that. That's a larger part of where it comes in.

Q. Below what?

A. Below that (indicating); below the point that I designated above Big Island.

Q. What do you call Little Pokegama then?

378 A. Little Pokegama and Big Pokegama—Big Pokegama comes out below there.

Q. Where does Little Pokegama come out?

A. Little above that.

Q. What do you call that? Do you call those waters a part of the St. Louis River or not?

A. I should think that would be as much of the lake almost, or the bay, part of the bay, as these waters below.

Q. According to your theory it would be a part of a lake, wouldn't it?

A. I know the lake water flows back there.

Q. According to your theory it would be part of the lake, wouldn't it?

A. I expect it would.

Q. There is some dead water along adjacent to the main channel of the St. Louis River up above New Duluth, isn't there?

A. Yes, sir.

Q. What do you call that water, water of the St. Louis River or a part of the lake?

A. It would be part of both.

Q. Part of both?

A. Yes, sir.

(Witness excused).

379 LUTHER MENDENHALL was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. Your name is Luther Mendenhall?

A. It is.

Q. Where do you reside, Mr. Mendenhall?

A. In Duluth.

Q. How long have you lived here?

A. I came here to stay in 1869.

Q. You came here from Philadelphia?

A. Yes, sir.

Q. You have lived here continuously ever since?

A. I have.

Q. What was your business, Mr. Mendelhall, when you first came to Minnesota and Duluth?

A. Real estate.

Q. You are a lawyer by profession and education?

A. I am.

Q. You were connected in the early days with the Western Land Association, were you not?

A. I was.

Q. Came out here from Philadelphia to represent that company?

A. Yes, sir.

Q. What lands did that company own at the head of the lakes?

A. They owned a good deal of the unplatted land around the head of the lake and upon St. Louis Bay, and quite a good deal of the platted lands as well, but not altogether the platted lands.

Q. That is, didn't own all of the platted lands?

A. No, sir.

Q. But that was the chief land company in the early days?

A. Yes, sir.

Q. And owns a great deal of property here yet?

A. Yes, sir.

380 Q. Have you been in the real estate business continuously ever since that time?

A. I have.

Mr. Fryberger: Gentlemen, I have photographs of three maps that were given to me by Mr. Mendenhall, exhibits 23, 24 and 25. I have the original maps here and the photographs are only a portion of the maps showing the head of the lakes. Mr. Mendenhall doesn't wish to part with his maps and if it is satisfactory to you I will have him identify the photographs and use them instead.

Q. I show you Minnesota's Exhibit 23, and will ask you if you recognize that as a photograph of a map that has been in your possession for a great many years?

A. Yes, it seems to be a correct copy of the map in my possession, which was itself a copy.

Q. Correct photograph?

A. Correct photograph.

Mr. Fryberger: I offer in evidence Minnesota's Exhibit 23, being a photograph of the map with the legend "Map of the head of Lake Superior, published by Lewis & McNair, real estate dealers, Duluth and Superior, drawn by J. J. Durage, civil engineer, 1888; compiled from the latest actual Government, railroad, county and private surveys."

Mr. Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Don't object to it on the ground it is a copy?

Mr. Owen: He has proved the copy part of it, I think. We don't object to it on the ground that it isn't the best evidence.

The Commissioner: The exhibit will be received subject to the objection.

381 Q. Mr. Mendenhall, I call your attention to Exhibit 23 and to this dotted line starting out in the lake and coming through the Superior entry, running down through Superior bay, running up through St. Louis Bay, upper and lower bay, up past or just opposite Spirit Lake. Do you notice that dotted line?

A. Yes, sir.

Q. Was that on the original map of which this was a photograph, at the time you got that map?

A. It was.

Q. Was this a map that was in common use by people residing here at the head of the lakes from 1888 on?



A. Yes, sir.

Q. Used by you as such?

A. Yes.

Q. What was that line understood to indicate?

A. The dividing line between the State of Minnesota and the State of Wisconsin.

Q. It appears to be approximately and substantially midway between the shores of these bays all the way up?

A. Yes, sir.

Attorney-General Owen: Objected to as leading; on the further ground that the map shows for itself.

Q. Calling your attention, Mr. Mendenhall, to the waters on this map, Exhibit 23, marked St. Louis Bay, I will ask you whether or not the different portions of this bay were known under different names?

A. They were.

Q. What?

A. The upper St. Louis Bay and the lower St. Louis Bay.

Q. That to the easterly of Grassy Point was called what?

A. Lower St. Louis Bay.

Q. And that to the westerly?

A. Upper St. Louis Bay.

Q. Mr. Mendenhall, I show you Exhibit 24, Minnesota's  
382 Exhibit 24, and will ask you if that is a photograph of a map that you had in your possession from and after its date, 1875?

A. It is, I believe; I haven't compared it; but it looks like it.

Q. You handed me the original of that, didn't you?

A. Yes; I would say it is a photograph.

Q. Was that a map that was in general and current use in this vicinity in the early days?

A. It was, yes.

Q. Have you found it to be a correct map?

A. It was always taken to be a correct map.

Mr. Fryberger: I offer in evidence Minnesota's Exhibit 24.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

Mr. Fryberger: I will add to that offer, having printed thereon "Sectional map of the country around Lake Superior showing the cities of Superior and Duluth and their vicinities, 1875. Published by James Bardon, Superior City, Wisconsin."

Attorney-General Owen: You don't make that as a separate offer?

Mr. Fryberger: No, I just wanted to still further identify the map.

Q. Mr. Mendenhall, I call your attention to the dotted line starting out in Lake Superior, running through the old Superior entry up through Superior Bay, lower and upper St. Louis Bay, and extending as far as Fond du Lac, on that map, which line is marked

"State boundary", and on one side "Minnesota" and the other "Wisconsin." Was that dotted line on the original map at the time you got it?

A. It was.

Q. What have you to say about that being recognized as the  
383 boundary between the two states at all times by those living here?

A. That was understood to be the boundary line, general understanding.

Q. I show you Minnesota's Exhibit 25 and will ask you if that is a photograph of another map that you have had in your possession since on or about the year 1882?

A. It is.

Q. And was that a map in common use among those living in this vicinity?

A. It was.

Q. Do you believe it to be a correct map?

A. I believe it is a correct map.

Mr. Fryberger: I offer in evidence Minnesota's Exhibit 25, being a map having printed thereon "Sectional map of the county around the head of Lake Superior showing the cities of Duluth and Superior and their vicinities, 1882. Scale two miles to one inch. Published by Lake Superior News, Duluth, Minnesota."

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Received subject to objection.

Q. I call your attention to the dotted line starting out in Lake Superior and running through the Bay of Superior, through upper and lower St. Louis Bay as far as Fond du Lac, and ask you if that dotted line with the words "State boundary" "Minnesota and Wisconsin" was on the original at the time you got it?

A. It was.

Q. And I presume your testimony is the same with reference to that line as the boundary, as to the other maps?  
384

A. Just the same.

Q. Mr. Mendenhall, you never had anything to do with the navigating of these rivers and bays any more than to travel up and down with pleasure boats?

A. That is all.

Q. You are not familiar with the channels or anything of that kind?

A. No.

Cross-examination.

By Mr. Gard:

Q. When was it you said you came to Duluth?

A. 1869 to remain. I was here in 1868 temporarily.

Q. You never knew any state line questions to be referred to any of these lines on this map, to determine, did you?

A. No.

(Recess, ten minutes).

385 JOHN H. NORTON was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Norton, you are a resident of the City of Duluth?

A. Yes, sir.

Q. Have been for how long?

A. Since 1891.

Q. And you are a lawyer?

A. Yes, sir.

Q. And have been for how long?

A. About thirty years.

Q. And have practiced law in the City of Duluth how long?

A. Ever since I—Well, ever since the winter of '92, '91 and '92.

Q. Were you for some years County Attorney of St. Louis County in which Duluth is situated?

A. Yes, sir.

Q. How many terms?

A. I was in six years, three terms.

Q. That was when?

A. Well, I have been out going on five years.

Q. Prior to the time that you commenced to practice law what business were you engaged in?

A. Sailing.

Q. For how long?

A. I was sailing for ten years.

Q. Where were you sailing?

A. On the Great Lakes most of the time.

Q. All over the Great Lakes?

A. Yes, sir.

Q. When did you become a resident of the City of Duluth?

A. June, 1891.

Q. And were you sailing at that time?

386 A. No. I hadn't been sailing for about four years previous to that, but when I came up here to locate I got a job with the Inman Tug Line, and had charge of a tug for the rest of the season.

Q. For the rest of the season 1891?

A. Yes, sir.

Q. Where did you navigate that tug?

A. Around the Duluth-Superior harbor and around the St. Louis River and Bay.

Q. Have you since you have become a lawyer given a good deal of attention to marine matters?

A. Made a specialty of that.

Q. At that time, when you were navigating these waters with a tug, had the Government channel been dredged out above Grassy Point?

A. No.

Q. It had not been above Grassy Point?

A. I don't think it had.

Q. Calling your attention to Minnesota's Exhibit 3, I will ask you to state when you were navigating and when you reached the lower end of Grassy Point, what course you took and what course the navigation generally took from there up towards Fond du Lac?

A. Well, after we passed through the railroad bridge at Grassy Point, through by the old Huntress and Brown mill we kept right on up, and hugged the Wisconsin side until we got abreast of the clay banks and then we held her to the Minnesota side and went right along where this red line indicates between—is that B?

Q. No; that is G there (indicating).

A. Between G and B. And passed to the right side of this little island, it has a name but I have just forgotten it now, and then the channel followed right along around with the curve  
387 of the shore until we got up Spirit Lake, and then we got at the head of Big Island we got into the river proper, and then we just followed the stream right on up.

Q. Now, is the course that you took from the southerly point of Grassy Point substantially on the red line marked A-E-G-B-C?

A. It was.

Q. And from there on up north of Big Island?

A. Yes, sir.

Q. And did you also at times go south of Big Island?

A. This is Big Island?

Q. Yes.

A. Yes.

Q. What course did you take when you were going south of Big Island?

A. Well, when we got right abreast of the point marked B, used to haul up into a channel there and run up between that head land that sticks out there and the island and passed up through what is known as the Devils Elbow.

Q. About on the line B-D and then on——

A. Right through here (indicating.) This is the Devils Elbow right at this point I am indicating now.

Q. Right at the bottom of Big Island as indicated on this map?

A. Very short turn there.

Q. What was generally known in those days when you were navigating this tug, if you know, as the mouth of the river? What did you understand to be the mouth of the River St. Louis?

A. Right down at the head of Big Island.

Q. Did you ever take this southerly course here marked E?

388 A. I never did. I understood there was a channel there but I don't know where it was. It wasn't buoyed out and never tried it.

Q. Did you ever take the course on this light shaded line or curve which is marked H in red?

A. I did not.

Q. Do you know whether at the westerly end of that line that I have just called your attention to, marked H, there was a shoal or bar?

A. That was all shoal water.

Q. Ever get stuck there?

A. I did. I was coming down with a scow loaded with wood one night and it got dark when I was abreast of Iron-ton over here, and when I got around up to the point to haul up I couldn't see the clay banks. There was no channel there so far as Government buoys were concerned, no stake, and I got over there to the eastward of the channel and got hard aground and lay there till noon next day before a tug came along and pulled me off.

Q. Was the water deeper in the line marked B-C than it was at this point you have indicated just easterly of C?

A. It was.

Q. And the main navigated and navigable channel was substantially on the line A-G-B-C?

Attorney-General Owen: Objected to as calling for a conclusion of the witness.

A. Yes.

#### Cross-examination.

By Mr. Gard:

Q. When did you say you came to Duluth, Mr. Norton?

A. 1891.

Q. How long did you operate this tug?

A. From about the first of August until some time in December until it froze up.

389 Q. And what were you doing?

A. I was master of the tug.

Q. What were you doing with it most of the time?

A. Well, Mr. Inman had a general tug line and the larger tugs were handling vessels and the smaller tugs were doing the up river work, towing scows mostly from a stone quarry up there near Chamber's Grove, and I used to make about two or three trips a week for stone scows for a couple of months. During the months of September and October mostly I was running that pretty near all the time.

Q. About how many trips did you make up the St. Louis would you say?

A. I made, I think, on an average of about three a week.

Q. For how long?

A. For a couple of months.

Q. Is that about all the navigation of the St. Louis you did?

A. That was all the navigation that I did as master of a tug. I have been up and down it a great deal with other craft.

Q. Other craft—You mean pleasure craft?

A. Yes.

Q. Light draft crafts?

A. Yes.

Q. This tug, how much water did it draw?

A. I think about five feet. It is what is known as a light draft tug.

Q. You said you got stuck one time in the dark, was it?

A. You bet.

Q. Do you know where it was you got stuck?

A. I know pretty well, yes. I couldn't go within ten feet of the place, I don't suppose, but I know approximately where it was.

Q. You say you couldn't see the mud banks?

A. Couldn't see the clay banks. You see right at this point here there is one, two, three, four, four projections and four indentations in the shore and each one of those has a very distinct clay bank.

Q. That's out just as you got through Grassy Point?

A. That is about opposite the letter E in the indicated channel there.

Q. You were coming down the channel northerly of Big Island when you got stuck, you say?

A. Yes, sir.

Q. Where was it you got stuck, do you think?

A. Well, I think we were right in the neighborhood of this place marked right in here (indicating) somewhere right in this location.

Q. That is at the location that is a little above the northerly line of what is marked there as "Coal dock" extended into the water?

A. Yes.

Q. At the place that the sounding is indicated on this map at twelve feet, isn't it?

A. No; I can't say just—That is twelve and a half. There is one three and a half. Another two and a half. Another seven. And one two. It is right in that neighborhood.

Q. That is, you were in the soundings that are marked  $2\frac{1}{2}$ ,  $3\frac{1}{2}$ ,  $12\frac{1}{2}$ , 5 and 6?

A. Yes, and 7, along in there. I was in that neighborhood.

Mr. Bailey: Right easterly of the point marked C; is that it?

The Witness: Not exactly.

Mr. Bailey: Southeasterly?

The Witness: It would be kind of northeast, wouldn't it?

Mr. Bailey: Northeast of the point marked C; is that the way you locate it?

The Witness: I think it would be.

391 Redirect examination.

By Mr. Bailey:

Q. The Inman Tug Line for which you were working was quite a wellknown line at that time, was it not?

A. Yes, sir.

Q. And had quite a large number of tugs?

A. Yes, it had seven or eight tugs.

Q. And was the course you have indicated as the one that you took the one that was generally taken by the tugs of that line?

A. Yes, sir.

Q. Was that the same course that was taken by boats generally, not only your line but any traffic that went up there?

A. I think so.

Mr. Gard:

Q. Were there any Government buoys up above Grassy Point at the time you navigated up there?

A. No, sir.

Q. Were there any buoys of any kind?

A. None whatever. (Witness Excused).

Mr. Hanitch: Minnesota's Exhibit 26 is a map purporting to have been published by Charles LeGro, County Clerk of Douglas County, Wisconsin, and is a map purporting to be of Douglas County and the waters of Lake Superior and that vicinity. I wonder if you gentlemen wouldn't admit that Charles LeGro was the County Clerk at that time? I think the Commissioner remembers that he was at that time county clerk.

The Commissioner: The Commissioner isn't supposed to have any knowledge on the subject, but I guess he was County Clerk.

392 Mr. Gard: Do you claim it was an official map as County Clerk?

Mr. Hanitch: I am claiming it was a map that was made or published, compiled, drawn or published, by Charles LeGro, County Clerk. I simply want to know whether you will admit that in 1889 Charles LeGro was County Clerk of Douglas County.

Attorney-General Owen: I don't see that it makes any difference whether he was or not.

Mr. Gard: Are you trying to get us to admit that this Charles LeGro made this map as an official map as Clerk of Douglas County?

Mr. Hanitch: That is a legal conclusion or a matter of argument. I asked you whether you will admit that Charles LeGro was in 1889 County Clerk of Douglas County?

Attorney-General Owen: We won't admit it unless you will admit it isn't an official map.

Mr. Hanitch: You refuse to admit that he was the County Clerk at that time?

Mr. Gard: We do because it is evident from what you have said that you are going to argue from that that he issued this as an offi-



cial map, and we all know that he did not issue it as an official map, and we consider it unfair for you to undertake to get a question in this record that you can argue in that manner. You can easily prove it is an official map if it is an official map.

Mr. Hanitch: We will prove that later. I want you now to admit this fact if you will——

393 Mr. Gard: That's just what we will not do because you intend to use it unfairly.

Mr. Hanitch: I resent this insinuation. I will call the Commissioner. Will you take his word, not under oath?

Mr. Gard: No, sir, we will not take his word for it.

Mr. Hanitch: Let the record show that they are not willing to take the word of the Commissioner.

394 WILLIAM TIEDEMAN was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Hanitch:

Q. Mr. Tiedeman, your full name?

A. William Tiedeman.

Q. You reside where?

A. At Superior.

Q. How long have you lived there?

A. Since 1889.

Q. Do you hold an official position with the City of Superior?

A. City assessor.

Q. For how long have you held that position?

A. Since 1905.

Q. Did you hold any official position prior to that time?

A. Yes, sir.

Q. What position?

A. I was a member of the Board of Aldermen.

Q. For how long?

A. I am not quite sure but I think three terms of two years each. I am not positive of that. Either two or three terms.

Q. Now what are your duties as assessor of Superior?

A. List and value property for assessment purposes.

Q. Does that include all of the property of the City of Superior?

A. Yes, sir.

Q. Witness being shown Minnesota's Exhibit 3 is asked whether he recognizes that as a map showing that part of Superior which is located on the Bay of Superior, St. Louis Bay and St. Louis River?

A. Yes, I have seen the map.

395 Q. In your official position are you required to examine and assess property which borders on these waters?

A. Yes, but not from this map.

Q. No, I don't mean that.

A. Yes.

Q. Now, about how far do the city limits extend, as shown by this map, and bordering upon these waters?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial; on the further ground that the map shows for itself.

The Commissioner: The Commissioner rules that the objection is well taken but the evidence will be taken subject to the objection. The map shows for itself.

Mr. Hanitch: The map doesn't purport to show the limits of Superior.

Attorney-General Owen: That is what your question asked him, as shown by the map.

A. This map doesn't show the southerly limits of the City of Superior as it is.

Q. Well, there is on this map a stream marked Allouez River that runs into Allouez Bay. This river is shown on the southerly end of the map. Is that in the City of Superior?

A. Yes.

Q. This map also shows waters marked "Pokegama Bay" on the westerly end of the map. Are those shores on the easterly side of Pokegama Bay in the city limits?

A. I should say both shores of Pokegama Bay was in the city limits as I understand it.

Q. Does this map show the harbor line on the Superior side of Superior Bay and St. Louis Bay and upper St. Louis Bay and Pokegama Bay?

Attorney-General Owen: Objected to on the ground that the map shows for itself and if it doesn't, the witness is not competent to testify.

The Commissioner: You may answer, Mr. Witness.

A. There is a line presumably indicates the harbor line. I can't say that it is.

Q. Is it similar or approximately the same as the harbor line which is marked upon the map which you use to make the assessment?

A. Yes.

Q. Now, Mr. Tiedeman, looking upon this map, state whether the improvements as shown on the map, if in fact they do exist, and give as nearly as you can remember their value, starting at the point marked Allouez River. I think the first industry mentioned there is "Elevator" and C. St. P. M. & O. Railway freight house, is it not?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial; on the further ground the witness is not competent to testify.

Q. That runs out to the dock line, does it not, on Allouez Bay?

A. Well, substantially so. The building itself does not, but the dock does.

Q. Do you assess that property?

279

A. We do not.

Q. The next property north of that is the Pittsburg Coal Company dock number 5 that runs out to the dock line, does it not?

A. Approximately, yes.

397 Q. Do you assess that?

A. Yes, sir.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

Q. What is the value of that property?

Attorney-General Owen: Objected to as incompetent, irrelevant, immaterial, and on the ground that the witness is not competent to testify.

The Commissioner: The commissioner can't see the relevancy of value, but the evidence must be taken. If you can answer you must do so.

A. Well, it's a question. You say the value or the assessment?

Q. Well, the real value as you know it.

A. I don't believe I could—

The Commissioner: Assessment value and real value are supposed to be the same, aren't they, in Wisconsin?

A. They are supposed to be, yes.

The Commissioner: If you know one may be that can answer the other.

Attorney-General Owen: He is framing his own questions—the counsel.

Q. What in your judgment was the property worth?

Attorney-General Owen: Same objection.

The Commissioner: Witness may answer if he can.

A. I am not prepared to state the value of that property.

Q. Have you any judgment at all as to what the value of that property is?

Attorney-General Owen: Objected to as leading his own witness, cross-examining him.

398 The Commissioner: The witness may answer if he can.

A. I couldn't answer that only by what the assessed valuation is.

Q. What is the assessed valuation as you remember it?

Attorney-General Owen: Objected to as not the best evidence.

The Commissioner: Witness will answer if he can.

A. Best of my recollection is about—I don't know as I can remember that. Somewhere about 465,000, to the best of my recollection.

Q. North of that property comes the ore-docks of the Great Northern Railway Company?

A. Yes, sir.

Q. How many docks are there there?

A. Four.

Q. They extend to the dock line, do they, approximately?

A. Approximately.

Q. Do you assess those?

A. We do not.

Q. You have been over them, haven't you?

A. Yes.

Q. They are very valuable structures, are they not?

A. Part of them are.

Q. What would you say as to whether they are worth several million dollars or not?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial and on the further ground that the witness is not competent to testify.

A. The four of them would without a doubt be worth several million dollars.

Q. How long has the Pittsburg Coal Dock been in there?

A. I couldn't say. It was there when I started the work.

399 Q. Been there more than fifteen years; is that true of the ore-docks?

A. Some of them.

Q. Now, passing beyond the Nemadji River and north we find the N. P. Coal Dock. That extends out to the dock line, doesn't it, substantially?

A. Yes, sir.

Q. What was the value of that?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial and on the ground that the witness is not competent to testify.

Q. I don't care that you be exact. Is it worth several hundred thousand dollars?

A. That is rather difficult to set a valuation unless some proportion—Offhand, I should say that is worth about fifty or sixty thousand dollars.

Q. Passing north of that we have the three mill properties, do you not?

A. Yes, sir.

Q. Those extend practically out to the dock line?

A. No, they do not.

Q. You assess those properties, do you not?

A. Yes, sir.

Q. What did you say in round numbers they were worth?

Attorney-General Owen: Same objection as before.

The Commissioner: The witness may answer the best he can.

A. I couldn't place any valuation on those.

Q. Are they worth more than two hundred thousand dollars, those three mills?

A. There are only two mills there, the Daisy and the Listman. The Anchor is out of commission, just a shell.

Q. Well, the Daisy has a capacity of 4,000 barrels a day, hasn't it?

400 A. About that.

Q. And the Listman has a capacity of 2,000, does it not?

A. Somewheres from 1500 to 2000.

Q. What would you say these properties were worth—over a hundred thousand dollars?

A. Oh, they might be worth more than a hundred thousand; be worth probably two hundred thousand, take them all together.

Q. They have been there longer than you have been assessor, have they not?

A. Yes.

Q. All of these properties have been there more than twenty years, haven't they?

A. Excepting the ore-docks. Some of them have been constructed since.

Q. Just north of the mills are two large elevator systems, are there not?

A. Yes.

Q. They have a capacity of 2,500,000 bushels each, do they not?

A. About that.

Q. You have assessed those?

A. Yes, sir.

Q. Would you say they were worth more than 200,000 dollars?

Attorney-General Owen: Same objection.

A. Yes, they were worth more than that.

Q. They extend out to the dock line?

A. Approximately.

Q. And have been there twenty years?

A. Yes.

Q. Now, passing on north to what is marked here as Connors Point, state whether or not there are a great many coal docks on the easterly side of Connors Point?

A. Yes.

Q. You assess them, do you not?

A. Yes, sir.

401 Q. And they all extend out to the dock line approximately, do they not?

A. Yes, most of them are out to the dock line.

Q. And they have been there, some of them twenty years or more, have they not?

A. Some of them were there longer than that and some of course less.

Q. There are the Northwestern Coal Dock number 1, the Hanna

Dock, the Northern Coal Dock, and the P. & R. Dock, are there not?

A. Yes, sir.

Q. And the old St. Paul and Pacific at the end of the point?

A. Yes, sir.

Q. Now, would you say that these five docks were worth more than \$2,000,000?

Attorney-General Owen: Same objection.

A. Yes, I think they would be worth more.

Q. Now, passing around Connors Point into St. Louis Bay and into Howard's Pocket, we have in there improvements, the Superior Shipbuilding Company, two or three wholesale mercantile companies and several industries and a number of elevators, have we not?

A. One elevator.

Q. In Howard's Pocket and Tower Bay slip?

A. In Hughitt Slip and Howard's Pocket.

Q. Would you say that those properties in the aggregate are worth a million dollars?

Attorney-General Owen: The same objection to that.

A. Oh, yes, yes, easy.

Q. And they have been there more than twenty years, have they not?

402 A. Well, some have not; the elevator hasn't.

Q. The ship yards have been, haven't they?

A. Ship yards have been there.

Q. Now, passing on to the west we have the Globe Elevator System and the Northwestern Fuel Company's Dock. They extend out to the dock line, do they not?

A. The Globe Elevator does not, but the Northwestern Fuel, number three, does, or substantially.

Q. And they have been there more than twenty years, have they not?

A. Yes.

Q. And those two industries would be worth over half a million dollars would they not?

Attorney-General Owen: Same objection.

A. I doubt it.

Q. Would you say they were worth over two hundred thousand dollars?

A. Not over. I don't think they are worth that.

Q. Passing to the west of that we come to the Great Northern Elevator system and the Great Northern Railway Company's warehouse. Those extend out to the dock line on the St. Louis Bay, do they not?

A. The elevator system doesn't extend to the dock line.

Q. Well, almost to it, does it not?

A. Well, it would be approximately. The buildings do not extend out. The dock——

Q. That is a very large elevator system holding over six million bushels of wheat, is it not?

A. About that.

Q. And the railway warehouse there is half a mile long, is it not?

A. Just about 2,800 feet, I guess, is what it is.

Q. Those structures have been there more than 20 years, have they not?

403 A. Well, yes, I guess the flour sheds have been there that long. The elevator, the new one, hasn't.

Q. Part of the elevator system has been there?

A. Part of it has.

Q. These two industries there would be worth over two million dollars, would they not?

Attorney-General Owen: Same objection.

A. Yes, I think so.

Q. Passing west of that you find the Northwestern Fuel Company dock number 2, then the Carnegie Coal Dock number 1, Great Lakes Coal and Dock Company, Island Creek Coal Dock, and Berwind Fuel Company and Reise Coal Company. In all there are five large coal docks there that extend out approximately to the dock line of the St. Louis Bay, do they not?

A. Except the Reiss.

Q. That is about halfway to the dockline, is it?

A. Perhaps a little more than halfway now.

Q. Those docks have been in there in some form or other for more than twenty years, have they not?

A. The Berwind hasn't.

Q. But the others have?

A. The others have.

Q. What would you say those five docks were worth in round numbers?

Attorney-General Owen: Same objection.

A. Well, I wouldn't care to say; wouldn't be able to say.

Q. Well, are they worth over two million dollars in the aggregate?

A. Including the Berwind?

Q. Yes.

404 A. Yes; they are worth more than that. They ought to be worth more.

Q. Passing westerly of that we have the M. S.——

A. Soo Ore-Dock, commonly known.

Q. That is the Minneapolis, St. Paul and Sault Ste. Marie Railway Company Ore-Dock. That extends out approximately to the dock line, does it not?

A. No, not yet.



Q. They are building an extension?

A. Extended last year but it doesn't extend out to the dock line as yet.

Q. Part of that dock has been in about how long?

A. I think the first part was built in 1913, if my recollection serves me right, first portion,—added since.

Q. What would you say that dock was worth in round numbers?

Attorney-General Owen: Same objection.

A. That property, before the new extension was put on, was worth about \$625,000.

Q. Now, Mr. Tiedeman, in assessing this property that we have discussed here as far as the Soo dock what is your practice to determine the acreage in the tract of land assessed?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

A. The practice is to calculate the acreage up to the established Government dock line.

Q. And who assists you in that? What other city official?

A. City engineer.

Q. And then you assess that property at so much per acre, do you?

A. Yes, sir.

405 Q. Multiplying it by the number of acres that is on the shore and under the water out to the dock line?

A. Yes, sir.

Q. In your experience in that office have you undertaken or has the City of Superior ever undertaken to assess any land outside of this dock line up to the point of the Soo ore-dock?

Attorney-General Owen: Objected to on the ground that the action of the officials of the City of Superior are not binding upon the State of Wisconsin and are incompetent, irrelevant and immaterial.

Q. I will modify that by saying, commencing with the Great Northern ore-docks and going north and around Connors Point and up St. Louis Bay as far as the Soo Railway Company ore-dock?

Attorney-General Owen: Same objection to that question.

A. No, there isn't anything, in that territory.

Q. How far to the west do you assess the shore lands by measuring the amount of acreage out to the dock line,—that is to the west of the Soo Railway?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial; further, on the ground that the action of the officers of the City of Superior is not binding on the State of Wisconsin.

The Commissioner: He may answer so far as within his knowledge.

A. The assessment, including to the dock line; runs west up to an extension of what is called Belknap Avenue, to the dock line.

Q. Is Belknap Avenue shown on that?

A. Yes, here it is. (Indicating.)

406 Q. Further west of that, Mr. Tiedeman, what method did you use to assess the valuation of these shore lands?

A. We assess according to the Government survey, Government lots.

Q. Why do you not measure out the acreage of those pieces?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

A. I have deemed it impracticable to determine where the so-called riparian rights appurtenant to each lot might carry it to, compared with the dock line.

Q. That is the indentations make the land so irregular you cannot trace it to the dock line?

A. With anything of a definite idea of the amount of acreage.

Q. But in your valuations you did or do consider the fact that these lands do extend out to this dock line, do you not, and give them some higher value than inside lands?

A. Not particularly the dock line but the riparian right that might attach to them.

Q. When did you first assess any property outside of this dock line?

A. 1913.

Q. And what did you assess then outside of this dock line?

A. For one thing assessed a piece here that ran on the other side of the dock line.

Q. Indicating the deep water line marked H?

A. Yes; that is it.

Q. You have undertaken to assess how much there, Mr. Tiedeman?

A. I think it was approximately 110 acres, as I remember it.

Q. How did you determine that; what boundaries did you give it?

407 A. Gave it the boundary of the original channel of the St. Louis River and the established dock line as established by the Government.

Q. That is the established dock line on the Minnesota side. You took in there a sort of a half circle, did you?

A. Took it in just out, that H line.

Q. Prior to that time you have never undertaken to assess anything outside of the Wisconsin dock line, have you?

A. No, sir.

Q. Now, going back to Superior Bay and just to the east of what is marked "Northwestern Coal Wharf", the city owns, does it not, a large tract of land there under water?

A. About forty acres.

Q. They purchased that when?

A. Probably bought it in 1910 or '11, somewhere thereabouts.

Q. And that was purchased and described by the boundary of the dock line, was it not?

A. Yes, sir, it was.

Attorney-General Owen: Who purchased it?

The Witness: The city purchased it of McCord. It is known as the McCord tract.

Q. Mr. Tiedeman, how did you happen to commence assessing that land on the Minnesota side in upper St. Louis Bay within the circle marked H there, that you say you began to assess in 1913?

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: You may give the reasons so far as you can.

A. The reason was at that time that the property had come in use and improved and court decisions seemed to clearly put it in

408 Wisconsin.

Q. What court decision do you refer to?

A. St. Louis, I think the case came from St. Louis, as I remember, the United States Circuit Court.

Q. Circuit Court of Appeals?

A. Court of Appeals.

Q. When you say St. Louis you mean St. Louis, Missouri?

A. It was reported there, as I remember.

The Commissioner: Was that the Whiteside—Norton case?

The Witness: Yes.

Q. You have continued to assess it since 1913?

A. Yes.

Q. And that has been under protest from the Zenith Furnace Company and the Carnegie Coal Company, hasn't it?

Attorney-General Owen: Objected to as incompetent, irrelevant, immaterial, calling for a conclusion of the witness, and on the ground that he is not competent to testify.

A. There has been no formal protest from the Zenith Furnace Company to my knowledge.

Q. Has there been formal protest from the Carnegie Coal Company?

A. Formal protest before the Board of Review from the Carnegie. The Zenith paid their taxes.

Mr. Bailey: Protested when they paid?

The Witness: I find no record of protest entered, as my recollection serves me, on the last assessment and the second last one.

Q. Did you receive the tax?

A. I did not.

Q. You only have to do with the assessment?

A. Assessment.

409 The Commissioner: Do you know, it might clear up matters a little bit, what is the fact as to whether the dock line established by the United States and the City of Superior coincide or nearly so on the course you have described from the mouth of the Nemadji westward?

The Witness: I think that is true. There was an attempt at one time to make a change at Howard's Pocket but subsequently the city lines and the Government lines coincide, what I know of.

The Commissioner: Another fact that might clear up something. Is the land platted on St. Louis Bay up to Belknap Street, rather than eastward from Belknap Street, down the other bay?

The Witness: The land platted up to Belknap coming from the east—no, it is not. All this land was west.

Q. Of the Globe Elevator?

A. Practically all the land facing the St. Louis Bay is not platted but sold generally by meets and bounds, and there is only one Government lot description right at Belknap, on the dock line.

The Commissioner: What we used to call Section 16 in Town. 49-14 there, hasn't been platted much of it, or any of it.

The Witness: It has not; that is, the north end isn't platted.

The Commissioner: Is there any platting above Belknap Street on the shore there or not?

The Witness: There is not.

Q. The land is platted on Superior Bay, is it not?

A. Superior Bay is platted clear up to Connors Point—plat of Connors Point.

410 Q. There you extend the lot lines right out to the dock lines, as I understand it, and calculate the acreage?

A. Yes, sir.

The Commissioner: In front of the old town in the old plat of Superior proper there is submerged land there platted, is there not, to some extent?

The Witness: Yes, there is.

The Commissioner: But in front of Superior City they are not?

The Witness: Well, from Superior City there is submerged land but they are platted there. That fill—Barker Island—fill made.

The Commissioner: That is not platted west, from half a mile west of the elevators there to Connors Point as submerged land?

The Witness: Supposed to be platted.

The Commissioner: There the shore lots carry out?

The Witness: Shore lots, yes.

By Mr. Fryberger:

Q. Calling your attention to that property you say you assessed in 1913 on the Minnesota side, being the property marked "Carnegie Coal Company" on Exhibit 3 and property marked "Coal

Dock," being the Zenith Furnace Company's property, the Carnegie Coal Dock Company or Pittsburg and LeHigh Coal Company have protested against paying taxes and being assessed at every step, have they not?

A. Not to my knowledge they haven't.

Q. Don't you know they filed formal protest against paying their taxes?

A. Filed formal protest before the Board of Review.

Q. Didn't they pay their taxes under protest every time they paid or don't you know anything about it?

411 A. I examined the rolls I think one year and I found no protest entered.

Q. The Carnegie Coal Company?

A. Yes. There may have been a protest filed but there is nothing to indicate on the tax roll that it was paid on a protest. That doesn't come through my department.

Q. You don't know about that?

A. No.

Q. You don't know whether each receipt showed that fact?

A. No.

Q. Have you continued to assess that property ever since 1913?

A. Yes, sir.

Q. And are keeping at it now?

A. Yes, sir.

Q. You know, do you, that the property is being assessed in both states?

A. I know it is assessed in Wisconsin. I don't know whether it is assessed in Minnesota or not.

Q. What is your understanding of it?

Attorney-General Owen: Objected to as incompetent, irrelevant and not the best evidence.

A. I don't know that it is.

Q. You have heard that it was, haven't you?

A. No, I don't know as I have.

By Mr. Bailey:

Q. You don't know whether the Zenith Furnace Company filed a protest there?

A. I couldn't say they did.

Q. You couldn't say that it didn't, either, could you?

A. No.

By Mr. Hanitch:

Q. Did you know Charlie LeGro in his lifetime, Mr. Tiedeman?

412 A. I don't remember that I knew him. I came here in the spring of 1889 and I wasn't much acquainted.

Mr. Hanitch: We will offer this Minnesota's Exhibit 26 in evidence, reserving the right to offer further proof as to the parties who made the map.

Attorney-General Owen: Objected to on the ground that it is incompetent, irrelevant, immaterial, and has not been proved to be a map in general circulation anywhere.

The Commissioner: It is received subject to that further proof.

Cross-examination.

By Mr. Gard:

Q. Mr. Tiedeman, I will ask you whether or not in assessing the property acreage out to the dock line you don't add something for the appurtenant riparian right that extends out beyond the dock line to the center of the stream?

A. I don't quite catch your meaning, Mr. Gard.

Q. Do you add anything to the value of the acreage because there is water privileges out beyond?

A. Yes, we would.

Redirect examination.

By Mr. Hanitch:

Q. That means that the fact that it runs to the dock line where it can reach the shipping facilities. You think it has more value than if it hasn't that access to the channel; is that so?

A. I don't know as I get the question very clear. If you figure the full acreage clear out to the dock line, no question about any further, we simply assess the acreage up to the dock line, including the whole body, while if we assess the Government lot to 413 the shore line, and for any possible riparian right we do increase the valuation on a Government lot.

Q. What did you have in mind, Mr. Tiedeman, when you say that there is some added value for extension to the center of the channel? What channel did you have in mind, for instance take this property along Superior Bay, what channel did you have in mind there when you say you gave it some additional value because it has riparian rights to the center of the channel?

A. Well, take it along Superior Bay front here as our understanding always has been there hasn't been any question but what all rights ceased at the established dock line.

Q. And now isn't that true up here in St. Louis Bay?

A. No, it is not.

Q. Where did you think in St. Louis Bay they extended to?

A. There is various places here. There is indication, or we thought, was further than the dock line.

Q. Here is St. Louis Bay. What is there in there that indicated you had rights beyond the dock line?

A. Well, for instance here is the channel (indicating); here is the dock line.

Q. So, there you assessed beyond the channel, didn't you?

A. We assessed these lots here (indicating).

Q. Didn't you measure the acreage on that?

A. No, sir.

Q. Isn't that this side of Belknap Street extension?

A. No. That there?

Q. No, this lot here (indicating). The lot lying between the Northern Pacific bridge and the Belknap extension. Doesn't  
414 the dock line show that it goes beyond the channel and goes into the Government channel?

A. That is, you mean the dock line?

Q. Goes into the Government dredge channel?

A. Yes.

Q. Goes beyond what apparently is a deep water mark there?

A. Yes.

Q. So you really assess beyond that old channel there, don't you?

A. In that case our acreage is calculated up to the dock line.

Q. Then that is beyond that old channel, isn't it?

A. Yes, in that case, yes.

Q. Now, coming back to Superior Bay. There is an old channel on this bay, apparently, is there not?

A. Yes, sir.

Q. And some places that old channel runs right up to the dock line, and other places it is very far from the dock line. You never make any difference in your valuation on account of the location of that old channel, do you?

A. Not here we don't, no.

Q. No, you simply fix your valuation according to this dock line and according to the dredged channel?

A. Not the dredged channel. According to the dock line as established, because it isn't dredged up to the dock line there (indicating),

Q. You don't consider in your calculations this old channel in the Bay of Superior, do you?

A. No channel there. It's nearly between the dock lines.

Q. And it is further away from the dock line at the easterly end of the bay than it is at the westerly end of the bay? Your dock line cuts it at the northerly end of the bay, does it not?

415 A. The channel doesn't go in here at all—the original channel.

Q. Doesn't this old channel here show that it runs into the dredged channel (indicating)?

A. (No answer).

Q. Now, Mr. Tiedeman, you said that in the assessment of the land on the Minnesota side you were moved by the fact that that land had been improved; is that right?

A. Improved, and court decision was the reason.

Q. Now to be perfectly honest, wasn't it the court decision entirely?

A. I think the court decision——

Attorney-General Owen: Objected to as cross-examining his own witness.

Mr. Hanitch: Well, he is an officer of the State of Wisconsin.

Attorney-General Owen: No, he is not.

The Commissioner: The witness may testify.



A. I think the greater influence was the court decision, sure.

Q. Isn't it a fact that on our side of the bay you assessed the land inside of the dock line regardless of whether it is improved or not? don't you, on the Wisconsin side?

A. Yes, we assess lands there under water.

Q. Then if you thought you owned the land on the Minnesota side you would have assessed that independent of any improvement wouldn't you, if you had followed the rule?

A. We did assess it.

Q. But you testified you didn't assess it until it was improved?

A. We assessed these lots here at a higher rate of valuation (increasing eating).

Q. And they are all inside of the Wisconsin dock line, are they not?

416 A. Inside of the black line there called the dock line.

Q. That is the dock line; that is the same kind of a dock line as there is on the Minnesota side, isn't it?

A. Yes, but the general understanding has always been with all of us that the St. Louis River was the dividing line between the cities. For that reason there is a great many of these here (indicating) that we add value to the assessment because of the greater area because we didn't figure, because we can't figure——

Q. You never have tried to reach over the dock line on the Minnesota side until this court decision?

A. We have not.

Q. And the fact and truth is that you were influenced in the assessment of the Carnegie and the Zenith Furnace Company entirely by that decision, isn't that so?

A. I think that is probably true.

Q. Otherwise you would be discriminating, wouldn't you, because on the Wisconsin side of the bay you assess the land independent of any improvement, do you not?

A. We assess it the same as we do there, all the land. We assess the full acreage where we know——

Q. I am calling attention to your testimony in which you undertook to testify here that you were influenced by the improvement and not entirely by the Court decision?

A. (No answer).

By Mr. Bailey:

Q. Mr. Tiedeman, the state taxes of Wisconsin are levied upon the basis of your valuation, are they not?

A. They are not.

Q. They are not?

A. No, sir.

417 Q. Who values them besides you?

A. The State Tax Commission.

Q. They simply review your work.

A. No. The State taxes are levied by a valuation the State Tax Commission fixes.

Q. They fix one valuation every year and you fix another?

A. Yes, fix a valuation for the purpose of levying a state tax.

Q. Entirely different from yours?

A. Yes.

By Mr. Hanitch:

Q. They use the same areas that you use, do they not?

A. I don't know. They fix it as a county.

Re-cross-examination.

By Mr. Gard:

Q. Mr. Tiedeman, you stated there that you added something to these lots here and you didn't indicate what lots you meant. What lots did you mean by these lots here (indicating)?

A. I mean all of these so-called Government lots lying west of this where Belknap Street runs into the—all this property on the St. Louis River along—is called Government lots. And these Government lots, as I understand it, only carry the actual area to the shore line of land, and our assessment rolls carry the number of acres represented according to the Government survey. It is only up to the shore line. Does not include any area outside of the shore line.

Q. What do you add there for that area outside of the shore line?

A. Runs anywhere from 25, 33, 50, and in cases as high as a hundred per cent, of course, on these lots around these points.

Q. Because of what?

418 A. Because of riparian appurtenants there.

Q. Whatever it is.

A. Whatever it may be.

Q. And how far did you consider it in making this assessment that that riparian right extends, to the channel or not?

A. To the channel. All based on the channel.

Re-redirect examination.

By Mr. Hanitch:

Q. Lot 1 in Section 17 contains, dry land, less than an acre, does it not?

A. I think it is about seven-tenths.

Q. And you assess it as eight acres?

A. Eight acres.

Q. How do you get the eight acres?

A. Figured out to the dock line.

Q. So it isn't true that when you come to Government subdivisions you were not guided by the dock line?

A. I said from that point up to that point it's been—

Q. Isn't a fact, Mr. Tiedeman, that from that point westerly the indentations are such and the shore lines are so irregular that it is impossible to determine just how many acres what the land under the water out to the dock line, each parcel is entitled to?

A. It certainly is.

Q. That is the real reason?

A. That is the very reason we haven't attempted to get the whole acreage because we felt it wasn't practicable to determine the lines.

(Witness excused).

419 JOHN G. HOWARD, recalled as a witness on behalf of the State of Minnesota, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. I show you Minnesota's Exhibit 27. I will ask you if that is a correct photograph that I asked you about when you were first on the witness stand, a map that was given to you by your father and that I believe you said you wanted to keep?

A. Yes, sir, it is.

Q. And it is considerably worn through age and time?

A. Yes.

Q. That dotted line starting at Lake Superior and running up through the Bay of Superior and St. Louis Bay and on up to Fond du Lac, marked out on the lake "State boundary Minnesota and Wisconsin", that was on there at the time you got that map from your father?

A. Yes, sir, it was.

Mr. Fryberger: Offer this in evidence, Minnesota's Exhibit 27, in lieu of the original map.

Attorney-General Owen: Objected to as incompetent, irrelevant, immaterial.

Mr. Fryberger: Don't object to it because it is the photograph?

Attorney-General Owen: No.

The Commissioner: The same is received in lieu of Exhibit number 2.

Attorney-General Owen: When was this photograph made?

420 Mr. Fryberger: Made by the man that photographed this crowd, this week.

The Commissioner: Does that appear as a stipulation, that it was made with'in the last week?

Attorney-General Owen: No.

Mr. Fryberger: I will make the statement that it was photographed within the last three or four days.

The Commissioner: Statement received.

Q. Mr. Howard, I show you Exhibit 28 and will ask you if that is a map that you have had in your possession for a number of years?

A. Yes, sir, it is.

Q. And you have gotten that out of your papers since this trial commenced?

A. Yes, sir.

Q. You have had it since on or about the day of its date? 1

A. Yes, sir.

Q. Was that an accredited map generally among the people of this vicinity?

A. Yes, sir.

Q. Soon after its date?

A. Yes, sir, it was.

Q. And was the dotted line running from Superior entry through the Bay of Superior and St. Louis Bay up as far as Spirit Lake or between Spirit Lake and Clough Island on that map at the time you got it?

A. It was.

Q. Do you believe the map to be a correct and accurate map?

A. I do.

Mr. Fryberger: Offer in evidence Exhibit 28.

Attorney-General Owen: Objected to as incompetent, irrelevant and immaterial.

421 The Commissioner: Received geographically subject to the objection. Geographically, I suppose it might be a little doubtful.

Mr. Gard: You didn't have anything to do with making these maps, did you?

The Witness: No, sir.

Mr. Bailey: I will offer in evidence Minnesota's Exhibit 29, being a map issued by the State authorities of Minnesota 1910 and '11, or compiled in 1910 and '11.

Attorney-General Owen: Objected to as incompetent, irrelevant, and immaterial; on the further ground that it has not been proven to be an accurate map, one issued by the Minnesota authorities or anybody else.

(Witness excused).

422 J. A. SCOTT was called as a witness on behalf of the State of Minnesota, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Fryberger:

Q. What is your name?

A. J. A. Scott.

Q. You reside in the City of Duluth?

A. Yes, sir.

Q. How long have you lived here?

A. Thirty-one years.

Q. What is your business?

A. Assessor of the City of Duluth.

Q. How long have you been assessor?

A. I am now on my seventh year.

Q. Mr. Scott, at the request of Mr. Bailey and myself have you

gone carefully over the dock property extending beyond the Zenith Furnace Company property up as far as Rice's Point on the Minnesota side of the bay and made an estimate of values at the present time?

A. Yes, sir.

Q. Now, I wish you would start with the Zenith Furnace Company property that is marked on this map, Defendant's Exhibit 3,— Just get the red ink, Mr. Bailey, and you mark them as he calls them off, if you will, please. Take the Zenith Furnace Company property dock. What do you consider at the present time is the fair and reasonable value of that dock property?

A. \$750,000.

Q. That is marked 1.

A. That wouldn't include any property—

Q. I am speaking now about the dock property. Number 2, the Chartier Mining Company property?

A. \$100,000.

Mr. Fryberger: Marked number 2 by Mr. Bailey on Minnesota's Exhibit 2.

A. Chartier Mining Company has one-half of the dock; Pittsburg & Lehigh has the other half.

Q. Carthier Mining Company has the east half and the Lehigh the westerly half; that is right, isn't it?

A. That is correct.

Q. Pittsburg & Lehigh is number 3. What valuation do you place on that?

A. \$1,015,000.

Q. Number 4, Island Creek Coal Company?

A. \$860,000.

Q. Number 5, The Berwind Fuel Company?

A. That is marked 6 on there.

Q. Marked 6, but put it 5 on the map. Just make it correct. You have skipped 5.

A. That is below the railroad track.

Q. Well, call it 6. He hasn't got 5 here.

A. Five is down lower.

Q. Mark it 6, Berwind Fuel Company. What—

A. \$1,109,000.

Q. Number 8, Canadian Northern dock?

A. \$140,000.

Q. Number 9, Duluth-Superior Dredge Company dock?

A. \$50,000.

Q. Number 11, Boston Coal-Dock?

A. \$120,000.

Q. Numbers 12 and 13 are the Pittsburg and S. S. Co. and D. M. & N. Coal-Dock jointly?

A. \$650,000.

Q. Number 15, Duluth, Missabe & Northern ore-dock?

A. For the entire dockage there \$8,000,000.

Q. Number 5, going back, Mr. Scott, to the Lesure Lumber Company?

A. \$230,000.

Q. Number 7, Alger-Smith Lumber Company?

A. \$180,000.

Q. Number 14, American Carbolite Company?

424 A. American Carbolite Plant is valued \$175,000, but that is not properly speaking dock property, I wouldn't think.

Q. Well, it extends out to the dock line?

A. Yes.

Q. Makes a total of approximately how much?

A. Approximately \$13,400,000.

Q. Is there much unimproved property that you have made no estimate of, have not been called for, between those properties?

A. Yes, sir.

Q. These are the only improved properties, between the Zenith Furnace Company property and Rice's Point, is that true?

A. The Scott-Graff Lumber Company has some improved property along the river there but I didn't make any estimate.

Q. These are the most important properties?

A. These are the most important ones.

Q. How long have these properties been—we will take out the Zenith Furnace Company's property and the Carnegie Coal Company's dock property, and how long have the balance of these improvements been there?

A. The Alger-Smith has been there 25 years. The Missabe ore-dock, a portion of it, has been there for 24 years. The Pittsburg Steamship Company dock has been there, I can't state exactly, 15 or 20 years; the Boston Coal-Dock for the period of about the same length of time; the Canadian Northern dock is comparatively a new improvement, two years. The Berwind about four years; the Island Creek a little older than the Berwind, about four years; not very much difference between those two; the Lesure Lumber Company has been there for 25 years; the American Carbolite was the first improvement made in that portion of the city formerly known as West Duluth, thirty years.

425 Q. The Pittsburg Steamship Company dock and D. M. & N.?

A. Fifteen or twenty years from my memory.

Mr. Bailey: These marks that I have placed on there are correctly placed according to your valuations, were they?

The Witness: Yes.

Cross-examination.

By Mr. Gard:

Q. When did you say the improvements were made on the property just marked number 1 on this map?

A. The Zenith Furnace Company property has been built at different times. The first improvement there was made about thirty

years ago and the last about six years ago, if I remember correctly; six or eight years.

Q. What portion of it was improved recently?

A. Well, the dock has been extended at different times and improved, what you might call the southerly end of the dock.

Q. That is recent?

A. That is within the last ten years. I haven't exact figures of the time.

Q. The original improvement was back, was it——

A. The Furnace was built about thirty years ago.

Q. Where does the furnace stand?

A. The furnace stands out just south of where the Duluth and Superior short line, Northern Pacific Railroad, crosses the bay, between 58th and 55th Avenues West, in the City of Duluth.

Q. It was landward from this channel there that is marked 426 H on this map, wasn't it?

A. Yes, sir.

Q. Quite a distance landward?

A. It is on the land.

Q. And when was the improvement made to the southward of that channel marked H; that is, I mean out towards the river?

A. I can't tell exactly, but it was within the last ten years sometime. There has been many improvements made to the furnace from year to year and I can't tell.

Q. They built their furnace back on the land, then did they fill the water out?

A. There has been a great deal of fill there with slag and waste material.

Q. They filled it with slag and gradually crowded the water back with slag?

A. Yes, it has been filled in there. Grassy Point was practically on the level with the river but the bay has been gradually filled up.

Q. By slag from the furnace company?

A. Yes.

Q. And they have just been filling that out by dumping the slag there, gradually, have they?

A. Yes.

Q. Now, the number 2, what improvement is that?

A. That is the Chartier Mining Company's property there which is improved only with a filling, slag filling.

Q. When was it filled?

A. Oh, it has been a gradual fill there for quite a while but more particularly in the last six or eight years.

Q. Has the filling extended out beyond the channel marked H on this exhibit?

A. I would be unable to state that.

Q. You don't know how far it extends out?

427 A. I would be unable to state that.

Q. The property number 3, when was the improvement made on that?

A. Four years ago.



Q. That is the coal company?.

A. The Pittsburg & Lehigh.

Q. And how was that fill made out beyond that channel marked H and across it?

A. The dock is a sand filled dock with a concrete cribbing.

Q. When was that filled?

A. That was filled four years ago.

Q. They made a cribbing and then pumped sand in?

A. The sand was pumped in there and crib was built practically at the same time.

Q. Is there any other improvement than those you have mentioned, outside of this channel here marked H. You see it is marked H in red there and extends right around there?

A. Yes, I understand. I think there are no other improvements in the section referred to.

Q. That segment there, it is really a segment, isn't it? It is shaped segment-shaped?

A. Yes, sir.

Q. And there are no other improvements in that than those that you have just now mentioned in response to my question?

A. Not any of a permanent character, or of any character.

Q. Is there any other fill out there?

A. Well, there is no other fill there that I have taken any official notice of in fixing value. I don't know of any.

Q. Have you taken notice from time to time of this fill by the Zenith Furnace Company with slag out into the channel marked H and beyond it?

A. No, I wouldn't say that I have.

428 Q. You say that the fill has been how recent out beyond - in and beyond that channel?

A. I couldn't answer that question where that channel is there or the fill on either side of it.

Q. Can you answer it approximately; that is, can you answer approximately about when it was filled out to where that channel is marked on the map?

A. I don't think I could give you any evidence that would be of any value; I don't think I can.

Q. But you do know that it has been filled by slag from the Zenith Furnace Company across and out beyond that channel?

A. Well, the coal-dock comes in here (indicating).

Q. That is, comes in here, you mean, where that is marked number 1?

A. The slag as it now appears is on this section here between number 1 and what is marked as H there on the property of the Chartier Mining Company.

Q. Then you understand that it wasn't filled with slag on property marked number 1?

A. There is some fill there but I don't know how much, how much there is under the dock.

Q. And the dock was built there when, about?

A. It was built at different times, fifteen years, approximately.

Q. That is the outer portion?

A. No; the outer portion has been built during the last ten years; I can't say just exactly how long ago.

Q. Do you know when they built across that channel marked H?

A. I don't know.

Q. And have they filled that in there; have they, the dock company?

A. It is filled.

429 Q. It is filled, anyway.

A. (No answer).

The Commissioner: The proceeding is adjourned until the 7th of August, 1917, at 10 o'clock in the forenoon, at the Federal Building in the City of Superior, Wisconsin.

Mr. Fryberger: The understanding is that the State of Minnesota may put in such additional testimony at the same time as it sees fit, and the State of Wisconsin will proceed immediately with its case, if counsel for the state feels they are ready, and if not, they are to have such additional time as they shall request; is that it?

Attorney-General Owen: Yes.

Mr. Gard: And notice of taking of the Wisconsin testimony is waived.

Mr. Bailey: I want to offer Minnesota's Exhibit 30, being a plate from Frank's Atlas, an atlas published in the City of Duluth about the year 1902 and in common circulation and general use in the city.

It is stipulated that this is a plat or a leaf taken from C. P. Frank's real estate atlas of Duluth, Minnesota, copyrighted in 1902 and commonly used throughout the City of Duluth.

Mr. Gard: Objected to as incompetent and not properly qualified.

430 Received August 8, 1917. D. E. Roberts, Commissioner.

Federal Building, Superior, Wisconsin,  
Tuesday, August 7, 1917, 10 A. M.

Pursuant to adjournment, the taking of testimony was resumed at the above time and place, before the Commissioner, Hon. David E. Roberts.

Present: The Commissioner, Hon. David E. Roberts; on behalf of the State of Minnesota, Hon. Lyndon A. Smith, Attorney General of the State of Minnesota; Mr. W. D. Bailey, Mr. H. B. Fryberger, and Mr. Louis Hanitch; and on behalf of the State of Wisconsin, Hon. Walter C. Owen, Attorney General of the State of Wisconsin, Mr. Horatio V. Gard, and Mr. Lyman T. Powell.

It was agreed that the hearings at this time should begin at ten A. M. and continue till 12:30 P. M., and from 2 P. M. until 4:30 P. M.

Thereupon the following testimony was introduced, and the following proceedings were had, to-wit:

JAMES M. KENNEDY, being duly sworn as a witness on behalf of the State of Minnesota, testified as follows:

Direct examination.

By Mr. Hanitch:

Q. Your full name, Mr. Kennedy?

A. James M. Kennedy.

Q. You reside where?

A. 2127 Ogden Avenue, Superior.

Q. How long have you lived in Superior?

A. Since January, 1915.

Q. You have been to Superior before, have you?

A. Yes, sir; I have been here every summer since 1901.

431 Q. What is your business now, Mr. Kennedy?

A. Assistant General Manager of the Land & River Company, Reorganized.

Q. How long have you held that position?

A. Since June, 1916.

Q. You have charge and custody of their books and papers and files?

A. Yes, sir.

Q. What is the Land & River Company, Reorganized?

A. It is the original Townsite Company of the city.

Q. Of West Superior?

A. Of West Superior.

Q. And do they have large real-estate holdings?

A. Yes, sir.

Q. They are a real-estate corporation, are they not?

A. Yes, sir.

Q. And platted originally all of the townsite of West Superior, did they?

A. Practically all of it; yes, sir.

(A map produced by the witness was marked Minnesota Exhibit 31.)

Q. Showing you Minnesota Exhibit 31, I ask you what that is.

A. It is a map of the City of Superior and surroundings.

Q. Have you had possession of that map?

A. Yes, sir.

Q. For whom?

A. For the Land & River Company.

Q. Is that one of their files or maps?

A. Yes, sir.

Q. State how long you have known of this being in the possession of the Land & River Improvement Company, or its predecessor; about how long?

A. I should say at least ten years.

Q. Where have they had it, generally, in their office?

A. It was hung on the wall till last spring—a year ago last spring.

Q. And was it used as a map showing the general location of the waters and lands at the head of the lake?

A. Yes, sir; I should say so.

432 Mr. Hanitch: We offer in evidence Minnesota Exhibit 31.

Attorney-General Owen: I want to ask him a question or two.

Examined by Mr. Owen:

Q. You never saw any other map like this, did you?

A. No, sir.

Q. This is a map that the Land & River Company has had hanging in its office?

A. Yes.

Q. For the particular use of the Land & River Company?

A. I suppose so; yes, sir.

Q. And it is not a map published for general circulation?

A. That I do not know.

Q. If it is, you do not know it?

A. No, sir.

Q. And you say you have known of the existence of this map for a period of only ten years?

A. That is all; yes, sir.

Q. The particular use made of this map by the Land & River Improvement Company was to show the relative position of real-estate under its ownership?

A. No, it was never used for the company's own properties, as a map. It was more of a reference map, a map that would show the whole city and the surroundings.

Q. The various lots and blocks and streets?

A. Yes, the whole property I should say.

Q. The Land & River Company has not been particularly interested in the exact location of the boundary line through these waters, has it?

A. Well, they might have been when they first got the map.

Q. Well, not since you have been connected with them?

A. No, sir.

Attorney-General Owen: We object to the map as incompetent, irrelevant and immaterial, and on the further ground  
433 that it has not been properly authenticated.

The Commissioner: The map will be received of course, subject to the objection. But permit me to make this remark, gentlemen: I was obliged to go through this record to get the exhibits in shape. They seem to be divided into three classes: first, official maps, which are undoubtedly proper; second, ancient maps, over thirty years old, shown to be in common use, which unquestionably are admissible; third, a series of commercial maps. Whether they are strictly admissible might be debatable in some

instances. I suppose the rule is that a map of this character, to be strictly admissible, would have to be proved to be in common use. I just make that suggestion for what it is worth. Whether the question can be raised, I do not know; it is immaterial to me.

Mr. Hanitch: This company having laid out the entire town-site of West Superior and having used this map, it seems to me that it was about as much in use as a map could be, with reference to the City of Superior and the waters surrounding it.

The Commissioner: It may be that is true; of course I do not pass on that; I just throw that suggestion out for what it is worth.

Q. State whether you know that this map had been in possession of the Land Company for a long time before you saw it in their office.

A. Well, what do you mean, Mr. Hanitch? It was there before I saw it?

434 Q. Yes; that is, from your general information about the affairs of the company, state whether or not the map has been in their possession for a great many years more than the ten years that you say you have had knowledge of it.

A. How much prior to that I could not say, Mr. Hanitch. I know it must have been there before I saw it, because it was there when I first saw it. How much longer than that I do not exactly know.

Q. The first time you saw a copy of this, as I understand you, or as I understood you this morning before coming upon the stand, was when the Land Company had its offices in the Board of Trade Building?

A. Yes, on the second floor of the Board of Trade.

Q. How long ago was that?

A. That must have been fifteen or sixteen or seventeen years ago, I should say; I do not just remember. When I first came up here.

Q. At least fifteen years ago?

A. Yes.

Q. And state whether or not you know that more than just one of these maps has been published and issued and used in this vicinity.

A. Well, that I don't know, Mr. Hanitch.

The Commissioner: Who made the map, do you know, Mr. Kennedy?

Witness: I think some firm in Minneapolis printed the map.

Mr. Fryberger: It is stamped right on the map itself.

Mr. Hanitch: It is stamped on the map.

The Commissioner: The map may be received subject to the objection.

435 Cross-examination.

By Mr. Owen:

Q. Mr. Kennedy, I think you testified that the Land & River Company, or its predecessor, was the proprietor of the original townsite.

A. Yes, sir.

Q. What townsite do you mean?

A. West Superior.

Q. You did not mean the original townsite of Superior?

A. No, sir; West Superior.

Q. When was that platted, do you know?

A. Various plats; I do not know how long back; in the 80's.

Q. Well, it was a good many years after the original townsite of Superior was platted, was it not?

A. The plats of the city?

Q. The original town plat of Superior as distinguished from the townsite of West Superior.

A. Well, the town of Superior, as I understand it, was in existence before the town of West Superior.

Q. Yes, a great many years.

A. I think so.

Q. How many years, according to your understanding?

A. Well, I understand there was a settlement at East End, what we call the East End now, the old town of Superior, around the time of the Civil War or prior.

Q. When was the townsite of West Superior platted?

A. I do not know; I think it was about 1880.

Examined by Mr. Hanitch:

Q. Mr. Kennedy, looking at Minnesota Exhibit 31, about what part of what is now the City of Superior was covered by the townsite of West Superior?

436 The Commissioner: Does the map show that?

Witness: I do not know, your Honor. (After examining the map Exhibit 31.) I should say it was practically everything west of the line here.

The Commissioner: You will have to call off some points, to make it intelligible on the record.

Q. Hill Avenue?

A. I should say west of Hill Avenue.

(The witness was excused.)

!

H. C. FULTON, being duly sworn as a witness on behalf of the State of Minnesota, testified as follows:

Direct examination.

By Mr. Fryberger:

Q. Your name is H. C. Fulton?

A. Yes, sir.

Q. You reside in the City of Duluth?

A. Yes, sir.

Q. And have for fifteen or eighteen years?

A. Twenty years.

Q. You are a practicing attorney?

A. Yes, sir.

Q. At the bar of St. Louis County, Minnesota?

A. Yes, sir.

Q. And you have represented the Pittsburgh & Lehigh Dock Company and the Chartiers Mining Company?

A. I believe the Carnegie Coal Company too.

Q. The Carnegie Coal Company also?

A. Yes, sir—the Carnegie Dock and Fuel Company.

Q. Mr. Fulton, representing these different companies, and within the past few years, have you paid personal and real property taxes for these companies, both in Douglas County, Wisconsin, and St. Louis County, Minnesota?

437 A. I paid the real-property taxes in Douglas County for the years 1913, 1914, 1915 and 1916, and in St. Louis County, Minnesota, for the same years, and paid the real-estate taxes for Douglas County for the year 1913.

Q. 1913?

A. Yes, payable in 1914.

Q. Well, did I understand you to say that you paid the personal property, first?

A. Yes, the personal property, for those four years in both states.

Q. In both states?

A. Yes.

Q. What did the personal property consist of, that you paid the taxes on, chiefly?

A. As I understand, chiefly coal on the docks.

Q. What was the real property? What was the description?

A. It is given here in the tax receipts, those that we paid in Wisconsin; it is described by metes and bounds.

Mr. Fryberger: Now, gentlemen, we have the original tax receipts, showing, I think, that all of those taxes were paid under protest in Wisconsin. We do not like to have them go in the record. We produce them, and we would like to make an arrangement with you to have copies made by the reporter and let us withdraw the originals. We have them here and we produce them. There will be no objection to that, will there?



Attorney-General Owen: No.

Mr. Fryberger: Then, Mr. Reporter, how would you like to mark them?

438 The Commissioner: Have them marked as exhibits.

Mr. Fryberger: Perhaps, gentlemen, if you will look them over, we can, merely by a statement, cover the whole situation.

Attorney-General Owen: Yes, we will look them over.

Mr. Fryberger: Yes, please do look them over, and perhaps we can cover the whole situation.

Attorney-General Owens: Are these all Wisconsin receipts? (Referring to receipts produced by the witness.)

Witness: They are all Wisconsin, yes.

Attorney-General Owen: My suggestion would be this, Mr. Fryberger—and this is what I thought of doing with some of our exhibits—have a copy made and let the witness testify that the copy which he holds in his hand is a true copy of the original, and make the statement that he does not like to leave the original but will leave the sworn copy, and mark the copy as the exhibit and let that be the evidence.

Mr. Fryberger: That will be entirely satisfactory, but of course we would not have time now before we close our case (we expect to close our case in a very few minutes) to make copies of these, but I presume it will be satisfactory, if you want a copy in the record, to have the reporter make the copy, and make a statement that they are accurate copies.

Attorney-General Owen: Yes, that is all right.

(Tax receipts produced by the witness were marked  
439 Minnesota Exhibits 32, 33, 34, 35 and 36, respectively.)

The Commissioner: Now what is your agreement, gentlemen?

Mr. Fryberger: Let me offer the exhibits. The agreement is, as I understand it, that we offer these exhibits in evidence, Exhibits 32 to 36, both inclusive (and there are additional exhibits also), with the understanding that the reporter is to make copies of these exhibits, which copies are to be substituted for the originals and the originals returned to us for our files.

The Commissioner: Is that agreeable?

Attorney-General Owen: Yes.

The Commissioner: It is so stipulated.

Mr. Fryberger: Now we offer in evidence, under that understanding, Minnesota Exhibits 32 to 36, both inclusive.

The Commissioner: Any objection, Mr. Owen?

Attorney-General Owen: I object to them as incompetent, irrelevant and immaterial.

The Commissioner: The exhibits are received subject to the objection made.

Minnesota Exhibits 32, 33, 34, 35, and 36, are in the words and figures following, to-wit:

440

## MINNESOTA EXHIBIT 32

*Personal Tax Receipt, 1916*

No. 2062 F.

STATE OF WISCONSIN,  
*Douglas County:*

CITY OF SUPERIOR, Wis., Jan. 30, 1917.

Received of Carnegie Dock and Fuel Co. Two Thousand Seventy one 96/100 Dollars in full payment of all Personal Taxes charged on Tax Roll of above city for the year 1916.

Personal tax.	Valuation.	General tax.	Sewer dist. No.	Total taxes.
9 Ward	75000	2071.96		2071.96

G. W. KANE,  
*City Treasurer.*

Stamped: "Paid under Protest."

## MINNESOTA EXHIBIT 33

*Personal Tax Receipt, 1914.*

No. 1710 F.

STATE OF WISCONSIN,  
*Douglas County:*

CITY OF SUPERIOR, Wis., Jan. 30, 1915.

\$1875.25.

Received of Carnegie Dock & Fuel Co. Eighteen Hundred Seventy Two 25/100 Dollars, in full payment of all Personal Taxes charged on Tax Roll of above City for the year 1914.

Personal tax.	Valuation.	General tax.	Sewer dist. No. 6.	Total taxes.
9 Ward	65000	1550.25	325.00	1875.25

G. W. KANE,  
*County Treasurer.*

Stamped: "Paid under Protest"

441

## MINNESOTA EXHIBIT 34

*Personal Tax Receipt, 1915*

No. 1305 F.

STATE OF WISCONSIN,  
*Douglas County:*

CITY OF SUPERIOR, Wis., 1/31, 1916.

\$1818.80.

Received of Carnegie Dock & Fuel Co. Eighteen hundred eighteen and 80/100 Dollars, in full payment of all Personal Taxes charged on Tax Roll of above city for the year 1915.

Personal tax.	Valuation.	General tax.	Sewer dist. No.	Total taxes.
9 Ward	75000	1818.80		18.80

G. W. KANE,  
*City Treasurer.*

Paid under Protest.

### MINNESOTA EXHIBIT 35

\$1116.13

No. A352

County Treasurer's Office

Superior, Douglas County, Wisconsin.

Received of Carnegie Dock & Fuel Co. this 25th day of May, 1914, the sum of Eleven hundred Sixteen 13/100 Dollars in full for Taxes, Interest and Charges for the year 1913, on the following described Real Estate in the City of Superior, Douglas County, State of Wisconsin, as returned to this office by the Treasurer of the City of Superior, in said County:

Description.	Sec.	Town range.	Lot.	Block.	Total tax.
Personal Property Tax, 9th Ward					1073.20

Paid under protest

Total tax .....	1073.20
Interest .....	42.93
Advertising .....	
Total .....	1116.13

F. J. KENYON,  
*County Treasurer,*  
*By —, Deputy.*

442 Examine carefully and report errors at once.  
Written on side of receipt: "Countersigned: W. J. Leader,  
A. K. Cole, D'p'ty County Clerk."

### MINNESOTA EXHIBIT 36

\$3713.65

*Redemption Receipt*

No. 222 B.

STATE OF WISCONSIN,  
*County of Douglas:*

Treasurer's Office, Superior, Wis., 3/5, 1917.

Received of Carnegie Dock and Fuel Co. by Fryberger, Fulton & Spear, Duluth, Minn., the sum of Thirty seven hundred thirteen Dollars and sixty five cents, in full for redemption from Tax Sale

of May, 1914, for the Taxes of 1913, on the following described Lands, to wit:

No. of  
certificate.

Description.

3917 Carnegie Dock & Fuel Co., That part of land and land under water commencing at a point on a line of sec. 16, tp 49, r 14, in the City of Superior, Douglas Co., Wis., and distant 121 ft n of e  $\frac{1}{4}$  corner of said sec. thence n  $89^{\circ} 40'$  W, for a distance of 10249.8 ft., thence s  $0^{\circ} 10'$  w for a distance of 2221 ft more or less to the center of the original channel of the St. Louis river which is the place of beginning, thence s  $0^{\circ} 10'$  to the established dock line on nly side of the dredged channel of the St. Louis river, thence wly along said dock line 1180 ft more or less to a right line production of the line between the property of the Carnegie Dock & Fuel Co., and the Zenith Furnace Co., thence n  $0^{\circ} 10'$  e and following said right line production for a distance of 1650 ft. more or less to the center of the original channel of the St. Louis river, thence ely and following said original channel to place of beginning containing 38 acres more or less, all of the above bearings are from the true meridian.

443

Lot.	Block	sec.	town.	Range.	Tax.	Interest.	Fees.	Advertising.	Total.
					2615.15	1098.00	50		3713.65

Paid under protest under the claim that his property lies within the State of Minnesota and is not taxable in Wisconsin; and in case the U. S. Supreme Court in the action therein pending between the State of Minnesota and the State of Wisconsin and involving this property, should decide that this property is in Wisconsin, then and in that case this payment is made by the Carnegie Dock and Fuel Co. as occupant of the property above described.

Countersigned:

W. J. LEADER,  
*County Clerk.*

HENRY BEGLINGER,  
*County Treasurer.*

(Another tax receipt was marked Minn. Ex. 37, consisting of four sheets.)

The Commissioner: Do you make the same stipulation with respect to the Minnesota receipts?

Mr. Fryberger: Yes; as soon as the reporter gets them marked we will put it on the record.

(Other tax receipts were marked Minnesota Exhibits 38, 39, and 40.)

Mr. Fryberger: I offer in evidence Minnesota Exhibit 37, consisting of four sheets, Minnesota Exhibit 38, consisting of three

444 sheets, and Minnesota Exhibit 39, consisting of two sheets, also Minnesota Exhibit 40 consisting of two sheets, with the understanding the reporter is to make copies of these exhibits, and the originals are to be withdrawn. Is it so understood?

Attorney-General Owen: It is so understood.

The Commissioner: It is so stipulated, and it will be so done.

Attorney-General Owen: The exhibits are objected to as incompetent, irrelevant and immaterial.

The Commissioner: The exhibits are received subject to the objection made.

Minnesota Exhibits 37, 38, 39 and 40 are in the words and figures following, to-wit:

### MINNESOTA EXHIBIT 37

Receipt No. 5973

*Statement of Personal Property Taxes for the Year of 1913.  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 5, 1914.

Carnegie Dock & Fuel Co. "Retail."

# 2 Lyceum Bldg.

Duluth, Minn:

This Bill must be paid before March 1st, 1914, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
1	63	15	City of Duluth	Ind.	3233	117.36

445 Your Personal Property Tax for 1913 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1914, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1914, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the Tax and Costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

Paid Feb. 16, 1914.

G. H. VIVIAN,  
County Treasurer.

By W. R. POND, Deputy.

Checked Feb. 16, 1914.

J. G. N. Cashier.

Printed on side: "If you will return this Statement when you pay it will save both you and us considerable time."

446

Receipt No. 5974

*Statement of Personal Property Taxes for the Year of 1913  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 5, 1914.

Carnegie Dock & Fuel Co. "Wholesale"  
No. 2 Lyceum Bldg., Duluth, Minn.

This Bill must be paid before March 1st, 1914, to Avoid Penalty

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
1	63	15	City of Duluth	Ind.	116000	4210.80

Your Personal Property Tax for 1913 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1914, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1914, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the Tax and Costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Paid Feb. 16, 1914.

G. H. VIVIAN,  
County Treasurer  
W. R. POND,  
Deputy.

Checked J. G. N. Cashier.

Feb. 16, 1914.

Do not detach sheets.

Return both when you pay.

Printed on side: "If you will return this statement when you pay it will save both you and us considerable time."

447

Receipt No. 5975

*Statement of Personal Property Taxes for the Year of 1913  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 5, 1914.

Pittsburgh & Lehigh Dock Co.,  
# 2 Lyceum Bldg., Duluth, Minn.

This bill must be paid before March 1st, 1914, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
3	93	1	City of Duluth	Ind.	85000	3085.50

Your Personal Property Tax for 1913 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1914, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1914, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the tax and costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

Paid Feb. 16, 1914.

G. H. VIVIAN,  
County Treasurer.  
By R. W. POND,  
Deputy.

Checked Feb. 16, 1914.

J. J. N. Cashier.

Printed on side: "If you will return this statement when you pay it will save both you and us considerable time."

448

Receipt No. 5976

*Statement of Personal Property Taxes for the Year of 1913  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 5, 1914.

J. H. Sanford, Pittsburgh, Pa.

This bill must be paid before March 1st, 1914, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
4	3	4	City of Duluth	Ind.	150	5.44

Your Personal Property Tax for 1913 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for collection.

On March 1st, 1914, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1914, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the tax and costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer



Do not detach sheets.

Return both when you pay.

Paid Feb. 16, 1914.

G. H. VIVIAN,  
County Treasurer.  
By R. W. POND,  
Deputy.

Checked J. J. N. Feb. 16, 1914.

Printed on side: "If you will return this statement when you pay it will save both you and us considerable time."

449

MINNESOTA EXHIBIT 38

Receipt No. 9875

*Statement of Personal Property Taxes for the Year of 1914.  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 4, 1915.

Carnegie Dock and Fuel Co. Wholesale  
# 2 Lyceum Bldg., Duluth, Minn.

This bill must be paid before March 1st, 1915, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
1	63	16	City of Duluth	Ind.	191435	6381.08

"Personal" coal stocks.

Stamp: "Paid under Protest"

Your Personal Property Tax for 1914 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for collection.

On March 1st, 1915, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1915, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the tax and costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

Paid Feb. 26, 1915.

G. H. VIVIAN,  
County Treasurer.  
By A. C. NELSON,  
Deputy.

Checked—Cashier.

Printed on side: If you will return this statement when you pay it will save both you and us considerable time.

450

Receipt No. 9876

*Statement of Personal Property Taxes for the Year of 1914  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 4, 1915.

Pittsburgh & Lehigh Dock Co.  
Lyceum Bldg., Duluth, Minn.

This bill must be paid before March 1st, 1915, to avoid penalty

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
3	92	3	City of Duluth	Ind.	165150	5763.75

"Personal" O. K. charge to improvements.

Paid under Protest.

Your Personal Property Tax for 1914 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for collection.

On March 1st, 1915, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1915, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the tax and costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you Pay.

Paid Feb. 26, 1915.

G. H. VIVIAN,

*County Treasurer.*

By A. C. NELSON,

*Deputy.*

Checked J. T. N., Cashier.

Feb. 26, 1915.

Printed on side: "If you will return this statement when you pay it will save both you and us considerable time."

451

## MINNESOTA EXHIBIT 39

Receipt No. 10049

		Tax rate. Mills.
State	Taxes	.... 3.65
County	"	.... 4.50
School	"	.... 11.86
City	"	.... 17.29
Total	.....	37.30

*Statement of Personal Property Taxes for the Year 19—  
St. Louis County, Minn.*

DULUTH, MINN., Jan. 2nd, 1917.

Pittsburgh & Lehigh Dock Co.  
Lyceum Bldg., Duluth, Minn.

This bill must be paid before March 1st, 1917, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
3	103	8	City of Duluth	Ind.	185198	6907.89

(In ink): Paid under Protest

(Stamp): Paid under Protest

Your Personal Property Tax for 1916 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for collection.

On March 1st, 1917, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 16, 1917, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the tax and costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

Paid Feb. 27, 1917.

G. H. VIVIAN,

*County Treasurer.*

By W. J. HARKEN,

*Deputy.*

Checked G. M. V. Feb. 27, 1917.

Printed on side: "If you will return this statement when you pay it will save both you and us considerable time."

452

Receipt No. 10,050.

		Tax rate.	
		<i>Mills.</i>	
State	Taxes.....	3.65	
County	".....	4.50	
School	".....	11.86	
City	".....	17.29	
Total .....		37.30	

*Statement of Personal Property Taxes for Year of 1916, St. Louis County, Minn.*

DULUTH, MINN., Jan. 2nd, 1917

Carnegie Fuel Co., Wholesale, #2 Lyceum Bldg., Duluth Minn.

This bill must be paid before March 1st, 1917, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
1	69	2	City of Duluth	Ind.	127,000	4,737

(In ink) : Paid under Protest.

(Stamp) : Paid under Protest.

Your Personal Property Tax for 1916 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1917, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or before April 16, 1917, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the Tax and Costs by distress and sale.

Please return this notice when you pay.

Paid Feb. 27, 1917.

G. H. VIVIAN,

*County Treasurer*

By W. J. HARKINS,

*Deputy*

Checked G. M. V., Cashier, Feb. 27, 1917.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

(Printed on side) : "If you will return this statement when you pay it will save both you and us considerable time."

453

## MINNESOTA EXHIBIT 40.

Receipt No. 9,807.

		Tax rate, Mills.
State	Taxes, . . . .	4.10
County	" . . . .	5.25
School	" . . . .	13.31
City	" . . . .	16.04
Total	.....	38.70

*Statement of Personal Property Taxes for the Year of 1915, St. Louis County, Minn.*

DULUTH, MINN., Jan. 3, 1916.

Pittsburg & Lehigh Dock Co., Lyceum Bldg., Duluth, Minn.:

This bill must be paid before March 1st, 1916, to avoid penalty.

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
3	95	4	City of Duluth	Ind.	165,180	6,392.47

Paid under Protest.

Your Personal Property Tax for 1915 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1916, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1916, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the Tax and Costs by distress and sale.

Please return this notice when you pay.

Paid Feb. 28, 1916.

G. H. VIVIAN,  
County Treasurer.  
By R. W. POND,  
Deputy.

Checked G. M. V., Cashier.

Make all remittances payable to G. H. Vivian, County Treasurer.  
Do not detach sheets.  
Return both when you pay.

(Printed on side): "If you will return this statement when you pay it will save both you and us considerable time."

454

Receipt No. 9,808.

			Tax rate. Mills.
State	Taxes.....		4.10
County	".....		5.25
School	".....		13.31
City	".....		16.04
Total .....			38.70

*Statement of Personal Property Taxes for the Year of 1915, St. Louis  
County, Minn.*

DULUTH, MINN., Jan. 3, 1916.

Carnegie Fuel Co., (Wholesale), #2 Lyceum Bldg., Duluth, Minn.

Paid under Protest.

This bill must be paid before March 1st, 1916, to avoid penalty

Book.	Page.	Line.	City, village or town.	School district.	Valuation.	Tax.
1	65	17	City of Duluth	Ind.	308,882	11,953.73

Your Personal Property Taxes for 1915 amounts to the sum indicated above. It is now due and in the hands of the County Treasurer for Collection.

On March 1st, 1916, a penalty of ten (10) per cent will be added to this amount unless the tax is paid prior to that date. On or about April 15, 1916, the tax still remaining unpaid will be placed in the hands of the Sheriff, who will proceed to collect the Tax and Costs by distress and sale.

Please return this notice when you pay.

Make all remittances payable to G. H. Vivian, County Treasurer.

Do not detach sheets.

Return both when you pay.

Paid Feb. 28, 1916.

G. H. VIVIAN,  
County Treasurer.  
By R. W. POND,  
Deputy.

Checked G. M. V., Cashier, Feb. 28, 1916.

(Printed on side): "If you will return this statement when you pay it will save both you and us considerable time."

455 Q. Now, Mr. Fulton, state in a general way what property is taxed, that paid the double tax under the protest arrangement as appears by these exhibits.

A. The St. Louis County covered the entire property and the Douglas County receipts covered the part that is in dispute.

Q. Mr. Fulton, in the pleadings in this case mention is made of the number of suits that have been started and are now pending between owners of property in Wisconsin and Minnesota, conflicting claims. Have you been connected with that litigation, more or less of it?

A. Yes, sir.

Mr. Fryberger: I presume like enough we can stipulate to all of those. I will have him state in a general way.

Attorney-General Owen: We will stipulate.

Q. Just state what suits are pending.

A. In the District Court of St. Louis County, Minnesota, there was the case of the Pittsburgh & Lehigh Dock Company versus the Norton Estate or the executors—I have forgotten just who represents them, and also the case of the Chartiers Mining Company against the same defendant, and in the courts of Wisconsin there was the case of the Norton Estate, or the executors, against the Pittsburgh & Lehigh Dock Company and Chartiers; I think that was all in one suit, but whether it is one or two suits I am not quite sure; and I think there is another action brought against property represented by Mr. Bailey; I am not sure as to that; we had the pleadings only.

Q. Now, what property is involved in those lawsuits, in a general way, with reference to these descriptions in these exhibits, these tax receipts, which have been offered in evidence this

456 morning?

A. I don't quite understand you.

Q. What I am trying to get at is whether or not it is the same property involved in these lawsuits as is covered by these tax receipts we have offered.

A. It is part of the dock property that is in dispute between the State of Wisconsin and the State of Minnesota.

Mr. Bailey: I presume it will be stipulated that there is a suit now pending in the United States court for the western district of Wisconsin, brought by George W. Norton and others, as executors, against the Zenith Furnace Company, and involving the title to the property just at the southwesterly end of the Zenith Furnace Company's property, claimed to be in these waters about which we are litigating?

Attorney-General Owen: Yes, we stipulate that.

Mr. Bailey: It being claimed by the Nortons in that suit that the property is in Wisconsin, and by the defendant Zenith Furnace Company that it is in Minnesota.

Q. In reference to that suit that was started in the Wisconsin State court by the Nortons against the Pittsburgh & Lehigh Dock



Company and the Chartiers Mining Company, is that still pending in that court?

A. It has been removed to the Federal Court.

Q. In and for the district of Wisconsin. I think that is all.

Cross-examination.

By Attorney-General Owen:

Q. You say you paid these taxes for the Carnegie Dock Company?

A. Yes, sir.

Q. In both the State of Wisconsin and the State of Minnesota?

457 A. In both states; yes, sir.

Q. And you protested the payment of them in the State of Minnesota as well as in the State of Wisconsin?

A. I presume that we did.

Q. What?

A. I presume that we did, yes. The receipts would show. I think we protested them there too.

Q. Well, that is true, isn't it?

A. If it so shows; that would be my recollection, that we protested them there. We were not absolutely certain we were in Minnesota of course.

Q. Are you familiar with the physical property of the Carnegie Dock Company in the Superior Bay?

A. Well, in rather a general way.

Q. What?

A. In rather a general way.

Q. You are not very familiar with it, then?

A. Not enough to mark out just where the disputed lines actually did go through, within a few feet.

Attorney-General Owen: That is all.

By Mr. Fryberger:

Q. I just want to ask one more question. Mr. Fulton, prior to the time that these taxes were paid in the State of Wisconsin, these personal property taxes on the coal that you testified to, what were the threats, if any, that were made about selling the personal property if these taxes were not paid on both sides?

A. I understood that the property would be sold according to their law if we did not pay them.

Q. Were there threats of that kind made?

A. Yes.

458 Q. As you understood it?

A. Yes.

Q. According to the Wisconsin law?

A. According to the Wisconsin law, yes.

Mr. Fryberger: I think that is all.

GEORGE W. KANE, being duly sworn as a witness on behalf of the State of Minnesota, testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Kane, you are the city treasurer of the City of Superior, Wisconsin?

A. Yes, sir.

Q. Have been for how long?

A. About eight years.

(Papers marked Minnesota Exhibits 41, 42 and 43, respectively.)

Q. As such treasurer you have charge of the collection of taxes levied in the City of Superior, do you?

A. Yes, sir.

Q. Showing you Minnesota Exhibit 41, consisting of two sheets, I will ask you if the first sheet is a "Personal and Income Tax Notice," issued in the usual course of business by the Chief of Police of the city and directed to the Zenith Furnace Company, in reference to personal property taxes for the year 1913?

A. Yes, sir.

Q. And if the second sheet attached is a receipt issued by the Chief of Police for those taxes to the Zenith Furnace Company?

A. Yes, sir.

Q. In the course of business, in the administration of the city affairs, does the Chief of Police at times collect taxes?

A. He collects taxes after they go delinquent.

Q. But if they are paid before they are delinquent, they are paid to you?

A. Paid direct to me; yes, sir.

Q. Do you know this to be the signature of Mr. McKinnon, who was Chief of Police at the time?

A. I do; yes, sir.

Q. Calling your attention to paper marked Minnesota Exhibit 42, I will ask you if that is a receipt issued by you to the Zenith Furnace Company?

A. Yes, sir.

Q. About the time it bears date?

A. Yes, sir.

Q. And if you collected the amount shown by the receipt?

A. I did.

Q. And those taxes were paid under protest, were they, by the Zenith Furnace Company?

A. The receipt is so marked, and I think they were paid under protest. The receipt is stamped "Paid under Protest."

Q. And calling your attention to Minnesota Exhibit 43, consisting of three sheets, I will ask you if the first sheet is a receipt for the taxes of the year 1916, issued to the Zenith Furnace Company by you as city treasurer?

A. Yes, sir.

Q. And if the second sheet is a copy of the voucher accompanying the payment?

A. The copy of the voucher, did you say?

Q. Accompanying the payment.

A. Why, yes; I think so.

Q. And if the third sheet is a notice issued by you for the amount of those taxes, to the Zenith Furnace Company.

A. Yes, sir.

Q. Now, were the taxes represented by these three receipts  
460 taxes for the personal property of the Zenith Furnace Company northerly of the dredged canal in the waters between Wisconsin and Minnesota?

A. It is the personal property tax on the Carnegie Company.

Q. No, it is the Zenith Furnace Company.

A. Or the Zenith Furnace Company; that is across the other side of the bay; I don't know just exactly the location.

Q. Well, they are taxes for personal property of this company located at a point that is in dispute between the States of Wisconsin and Minnesota, are they not?

A. Yes, that is the property.

Q. Where the right to tax is claimed both by the State of Minnesota and the State of Wisconsin?

A. Yes, sir.

Mr. Bailey: I will offer these in evidence. I would like to have it understood, the same as it was before, that copies may be made and the originals withdrawn.

Attorney-General Owen: We simply object to them as incompetent, irrelevant and immaterial, but agree that copies may be substituted for the originals.

The Commissioner: What are the numbers?

Mr. Bailey: Minnesota Exhibits 41, two sheets, 42, one sheet, 43, three sheets.

The Commissioner: Minnesota Exhibits 41, 42 and 43 may be copied by the reporter into the record, and after that is done the exhibits themselves may be withdrawn. They are received in evidence subject to the objection.

Mr. Bailey: I think that is all, Mr. Kane.

461 The Commissioner: The originals may be returned to counsel for the State of Minnesota.

Minnesota Exhibits 41, 42 and 43 are in the words and figures following, to-wit:

## MINNESOTA EXHIBIT 41.

(Postal Card.)

(On front side) : Geo. W. Kane, Treasurer.

Superior  
Feb. 13, '14.  
8-36 A. M.  
Wis.U. S. Postal  
1 Card 1  
One Cent  
McKinley.

This side of card is for address only.

Zenith Furnace Co.,  
West Duluth,  
Minn.

(On reverse side) :

*Personal and Income Tax Notice.*

SUPERIOR, WIS., 2/12/14.

Your tax for the year 1913, in the 9 Ward of the City of Superior,  
is as follows :

Income tax .....	
Personal tax .....	
Total to pay .....	\$191.57

This tax is past due, if paid at once you will avoid additional  
cost.V. McKINNON,  
*Chief of Police.*

Bring this card when you pay.

(Stamped) : Answered  
Zenith Furnace Co.  
Received

A. M. Feb. 13, 1914. P. M.

462

*Personal Tax Receipt.*

City Hall, Superior, Wis.

No. 923.

SUPERIOR, WIS., Feb. 17th, 1914.

Received Zenith Furnace Co. One Hundred Ninety One and  
57/100 Dollars. Personal Tax in the 9 Ward for 1913.  
\$191.57.V. McKINNON,  
*Chief of Police,*

By ———.

Paid under Protest.

## MINNESOTA EXHIBIT 42.

*Personal Tax Receipt, 1915. No. 79 F.*STATE OF WISCONSIN,  
*Douglas County:*

CITY OF SUPERIOR, WIS., Dec. 21, 1915.

\$848.75.

Received of Zenith Furnace Co. W. Duluth, Eight Hundred Forty-Eight 75/100 Dollars, in full payment of all Personal Taxes charged on Tax Roll of above city for the year 1915.

Personal tax.	Valuation.	General tax.	Sewer dist. No.	Total taxes.
9 Ward	35,000	84,875	.....	848.75

Paid under Protest.

G. W. KANE,  
*Treasurer.*

(Written in pencil): 20139.

(Stamped on face): -est Reckitt & Co.  
Produce——  
—(Stamped on back): Answered Zenith Furnace Co.  
A. M. Received Dec. 23, 1915. P. M.

## MINNESOTA EXHIBIT 43.

(Postal Card.)

(On front): Superior  
Dec. 21, '16  
11- P. M.  
Wis.U. S. Postal  
Card  
One Cent

This side of card for address.

Zenith Furnace Co.  
W. Duluth,  
Minn.

(On reverse side):

*Tax Notice.*

SUPERIOR, WIS., Dec. 16, 1916.

You are taxed in the 9 Ward of the City of Superior, as follows:

	50,000.00*
	27.63*
Per .....	1,381.30
Sewer Dist. ....	
Income .....	
Offsets .....	
Total, tax to pay .....	1,381.30

[\*In pencil in copy.]

This Tax is now due and should be paid before January 31st, 1917, or the same will be subject to collection by distress and sale together with the penalty thereon as required by Section 1081, R. S.

G. W. KANE,

*City Treasurer.*

Bring this card when you pay.

(Stamped): Answered Zenith Furnace Co.  
A. M. Received Dec. 22, 1916. P. M.

464

Zenith Furnace Company.

*Auditor's Voucher.*

Auditor: Pay to G. W. Kane, City Treas., Superior, Wisc.

In payment of items as detailed below:—January 9th, 1917.

For taxes on coal on that portion of Zenith Dock supposed to be in the corporate limits of the City of Superior, Wisc., as per postal notice attached 1381.30.

Paid under protest.

Taxes accrued.

(Signed)

BENNETT,  
*Auditor.*

Approved:

*President & Gen'l Manager.*

465

*Personal Tax Receipt, 1916*

No. 803 F.

CITY OF SUPERIOR, WIS., 1/12, 1917.

STATE OF WISCONSIN,

*Douglas County:*

Received of Zenith Furnace Co. Duluth, Minn. \$1381.30. Thirteen hundred eighty one and 30/100 Dollars in full payment of all Personal Taxes charged on tax roll of above city for the year 1916.

Personal tax.	Valuation.	General tax.	Sewer dist. No.	Total taxes.
9 Ward	50000	1381.30		1381.30

Paid under protest.

G. W. KANE,  
*City Treasurer.*

(Stamped on back):

Answered  
Zenith Furnace Co.  
Received  
Jan. 15, 1917  
A. M. . P. M.

466 W. J. LEADER, being duly sworn as a witness on behalf of the State of Minnesota, testified as follows:

Direct examination.

By Mr. Bailey:

(Papers marked Minnesota Exhibits 44, 45 and 46, respectively.)

Q. Mr. Leader, what position do you occupy?

A. County Clerk of Douglas County, Wisconsin.

Q. And how long have you been in that office?

A. I have been in the office for twenty-seven years; I have been County Clerk about seven years.

Q. Oh, you were deputy before that?

A. I was County Clerk in 1891 and 1892, and then deputy until 1911.

Q. So you have been there about twenty-seven years; did you say?

A. Yes.

Q. Now, as such county clerk what do you have to do with the collection of real-estate taxes in Douglas County, if anything?

A. Well, I keep the record of the sale of taxes, and make statements of the amount due, and countersign the treasurer's receipts. Until 1913 the collections were made in our office, but the Legislature that winter changed it, so that the treasurer makes the receipts.



Q. I see. And in case taxes are not paid but become delinquent and the property goes to sale, then how is it handled?

A. The treasurer issues a certificate of sale and the record of that sale is kept in my office.

467 Q. Now showing you papers which have been marked Minnesota Exhibits 44, 45 and 46, I will ask you what those are. What do you call them?

A. Certificates of sale.

Q. Certificates of sale for the taxes of the years 1914, 1915 and 1916 issued by the County Treasurer of Douglas County, covering the property described in the certificates?

A. They are for the taxes for 1913, 1914 and 1915. The sale takes place the June afterwards.

Q. Oh, I see.

A. The June of the next year. That certificate of sale of 1914 is for the 1913 tax.

Q. It says 1914 at the top; that is the reason I spoke of it in that way. And if that is true, they are certificates of sale for the respective years you have mentioned?

A. Yes.

Q. Issued by the County Treasurer on the property therein described?

A. Yes, sir.

Q. This property described in each of them, I take it, you know to be the property in dispute between the States of Wisconsin and Minnesota, and just northerly of the dredged channel out here in the waters between Minnesota and Wisconsin?

A. Yes, sir; this is part of the property in dispute.

Mr. Bailey: I will offer in evidence Minnesota Exhibits 44, 45 and 46, and I wish it would be stipulated that the reporter may make copies and return the originals.

The Commissioner: Have you any objection to the offer?

Attorney-General Owen: We stipulate as requested, but object to the exhibits as incompetent, irrelevant and immaterial.

The Commissioner: The exhibits will be received subject  
468 to the objection, and copies made and substituted for the originals as agreed by counsel, and the originals returned to the counsel for the State of Minnesota.

Minnesota Exhibits 44, 45 and 46 are in the words and figures following, to-wit:

## MINNESOTA EXHIBIT 44

Tax Certificate Sale of 1915.

No. 3746.

STATE OF WISCONSIN,  
County of Douglas, ss:

County Treasurer's Office, May 18, 1915.

I, Henry Beglinger, County Treasurer of the County of Douglas, in said state, do hereby certify that I did at Public Auction, pursuant to notice given as by law required, on this 18th day of May, A. D. 1915, sell to C. W. Andrews the lands herein described, for the sum of Twelve hundred Seventy-one Dollars and Forty-nine Cents said sum being the amount due and unpaid for taxes, interest and charges on said lands for the Year of Our Lord, One Thousand Nine Hundred and Fourteen, that said C. W. Andrews his heirs and assigns, will therefore be entitled to a Deed of Conveyance of said lands in three years from date, unless sooner redeemed from such sale according to law. Said lands are described as follows, with the sum for which each tract was sold set opposite each description, that is to say:

## City of Superior.

That part of land and land under water; commencing at a point on the E line of Sec. 16 Tp 49, R. 14, W in the City of Superior, Douglas Co., Wis., and distant 121 ft. N of E  $\frac{1}{4}$  cor. of said section, thence N  $89^{\circ} 40'$  W for a distance of 11429.8 ft., thence S  $0^{\circ} 10'$  W for a distance of 1755 ft., more or less, to the center 469 of the original channel, of the St. Louis river, which is the place of beginning, thence S  $0^{\circ} 10'$  West for a distance of 1650 ft. more or less to the established dock line on Nly side of the dredged channel of the St. Louis river, thence Wly and following said dock line for a distance of 1850 ft. more or less, thence N  $0^{\circ} 10'$  E for a distance of 200 ft. to the center of the original channel of the St. Louis river, thence Nly and Ely and following said original channel to the place of beginning, containing 60.90 acres, more or less. All of the above bearings are from the true meridian.

Section.	Town.	Range.	Lot.	Block.	Amount.
16	49	14	.....	.....	\$1271.24
Fee for Tax Certificate.....					.25
					<hr/> \$1271.49

According to the facts.

HENRY BEGLINGER,  
County Treasurer.

(Stamp): Ernest Reckitt & Co. produced at Audit.  
(Printed on side:) Douglas County.

470

## MINNESOTA EXHIBIT 45.

Tax Certificate Sale of 1914.

No. 3918.

STATE OF WISCONSIN,

County of Douglas, ss:

County Treasurer's Office, May 19, 1914.

I, Frank J. Kenyon, County Treasurer of the County of Douglas, in said state, do hereby certify that I did at Public Auction, pursuant to notice given as by law required, on this 19th day of May, A. D. 1914, sell to C. W. Andrews the lands herein described, for the sum of Twelve hundred forty-five Dollars and fifty-four Cents said sum being the amount due and unpaid for taxes, interest and charges on said lands for the year of Our Lord One Thousand Nine Hundred and Thirteen; that said C. W. Andrews his heirs and assigns, will therefore be entitled to a Deed of Conveyance of said lands in three years from date, unless sooner redeemed from such sale according to law. Said lands are described as follows, with the sum for which each tract was sold set opposite each description, that is to say:

City of Superior.

North 20/100 That part of land and land under water: commencing at a point on the E line of Sec. 16, Tp. 49, R. 14, W in the City of Superior, Douglas Co., Wis., and distant 121 ft. N of E $\frac{1}{4}$  cor. of said section, thence N 89° 40' W for a distance of 11429.8 ft., thence S 0° 10' W for a distance of 1755 ft., more or less, to the center of the original channel of the St. Louis river, which is the place of beginning, thence S 0° 10' West for a distance of 1650 ft. more or less to the established dock line on Nly side of the dredged channel of the St. Louis river, thence Wly and following said dock line for a distance of 1850 ft. more or less, thence N 0° 10' E for a distance of 200 ft. to the center of the original channel of the St. Louis river thence Nly and Ely and following said original channel to the place of beginning, containing 60.90 acres, more or less. All of the above bearings are from the true meridian.

Section.	Town.	Range.	Lot.	Block.	Amount.
16	49	14	.....	.....	\$1245.29
			Fee for Tax Certificate	.....	25
					<hr/> \$1245.54

FRANK J. KENYON,  
County Treasurer.

According to the facts.

Stamped: Ernest Reckitt & Co. produced at Audit.  
(Printed on side): Douglas County.

## MINNESOTA EXHIBIT 46.

*Tax Certificate Sale of 1916.*

No. 4008.

STATE OF WISCONSIN,  
*Douglas County, ss:*

County Treasurer's Office, June 13, 1916.

I, Henry Beglinger, County Treasurer of the County of Douglas, in said state, do hereby certify that I did at Public Auction, pursuant to notice given as by law required, on this 13th day of June, A. D. 1916, sell to C. W. Andrews the lands herein described, 472 for the sum of One Thousand three hundred and two Dollars and nine Cents said sum being the amount due and unpaid for taxes, interest and charges on said lands for the Year of Our Lord, One Thousand Nine Hundred and Fifteen; that said C. W. Andrews his heirs or assigns, will therefore be entitled to a Deed of Conveyance of said lands in three years from this date unless sooner redeemed from such sale according to law, and the rate of interest in case of redemption shall be 15 per cent per annum. Said lands are described as follows, with the sum for which each tract was sold set opposite each description, that is to say:

City of Superior.

That part of land and land under water; commencing at a point on the e line of Sec. 16, Tp 49, R 14 W. in the City of Superior, Douglas Co., Wis., and distant 121 ft. n of E $\frac{1}{4}$  cor. of said section; thence n 89° 40' w for a distance of 11429.8 ft; thence s 0° 10' west for a distance of 1755 ft more or less, to the center of the original channel of the St. Louis river, which is the place of beginning; thence s° 10' west for a distance of 1650 ft. more or less, to the established dock line on nly side of the dredged channel of the St. Louis River; thence wly and following said dock line for a distance of 1850 ft. more or less; thence n 0° 10' e for a distance of 200 ft. to the center of the original channel of the St. Louis river; thence nly and ely and following said original channel to the place of beginning, containing 60.90 acres, more or less. All of the above bearings are from the true meridian.

Section.	Town.	Range.	Lot.	Block.	Amount.
16	49	14	.....	.....	\$1,301.84
473	Fee for	Tax Certificate.....			1,302.00
					<hr/> 1,302.00

HENRY BEGLINGER,  
*County Treasurer.*

According to the facts.

(Printed on side) : Douglas County.

(Stamped on back) : Answered

Zenith Furnace Co.

Received

A. M. Sep- 5, 1916. P. M.

Examined by Mr. Hanitch :

Q. Mr. Leader, how long have you lived in the city of Superior, Douglas County?

A. Since 1885.

Q. I think you testified that you have been in the County Clerk's office and county clerk or deputy since 1891?

A. Yes, sir.

Q. Did you know Charles Lagro in his lifetime?

A. Yes, sir.

Q. Do you remember when he was county clerk of Douglas County, Wisconsin?

A. Yes, sir.

Q. Was he your predecessor?

A. Yes, sir. Well, not exactly. There was a month—Lagro's term of office expired the first Monday in January, 1891, and the clerk who was elected to the office was disqualified along in  
474 February, and I was appointed.

Q. Was Lagro County Clerk in 1899?

A. In 1889.

Q. In 1889?

A. Yes, sir.

Q. Do you remember of ever having seen a map that was published by Lagro while he was County Clerk?

A. Yes, sir.

Q. I show you Minnesota Exhibit 26 and ask you to state whether that is a copy of the map that was issued by Charles Lagro in 1889.

A. Yes, sir, that is the map.

Q. Mr. Leader, as county clerk of Douglas County do you have in your possession the records showing the proceedings of the County Board of Douglas County during the year 1889?

A. Yes, sir, I have it here.

Q. Is there anything in those proceedings relating to this Lagro map? Just answer that yes or no.

A. Yes, sir.

(The witness produces a record book.)

Q. What record do you have in your hands now?

A. Volume 3 of the Proceedings of the County Board of Douglas County, Wisconsin.

Q. Will you kindly turn to the page that contains the record of the proceedings of the County Board relating to the Lagro map?

A. On page 352 of this volume 3, proceedings of November 15, 1889.

Q. What other page?

A. Page 352 and page 357 of the same record.

Mr. Hanitch: We offer in evidence these pages, 352 and 357, and we would like to have the counsel stipulate that the witness may  
475 read that part of the record which relates to the Lagro map and have the same stand in this record in lieu of the original, because this is one of the county records.

The Commissioner: Let the counsel see it.

Attorney-General Owen: We will probably stipulate that. Let us see what you want to read in.

Mr. Hanitch: Come here and I will show you, and then I will ask the witness to read it.

(The record referred to was examined by Attorney-General Owen.)

Attorney-General Owen: Have you offered that?

Mr. Hanitch: I will ask him some further questions.

Q. Mr. Leader, the part of the record on page 352 is part of the record of what?

A. Of the adjourned annual meeting held on November 15, 1889.

The Commissioner: Of the board of supervisors of Douglas County, Wisconsin.

Witness: Of the board of supervisors of Douglas County, Wisconsin.

Q. And that which appears on page 357 is a record of what?

A. Of an adjourned meeting held on November 19, 1889.

Q. Of what?

A. Of the annual meeting of the County Board of Supervisors of Douglas County, Wisconsin.

Mr. Hanitch: I now offer the following part of the record appearing on page 352.

The Commissioner: Part of the proceedings of the Board  
476 relating to the Lagro map?

Mr. Hanitch: The Lagro map.

Attorney-General Owen: Right here I want to object to the introduction of that part of the proceedings of the County Board, on the ground that it is incompetent, irrelevant and immaterial; that the action of the County Board in that respect was ultra vires and void and unauthorized by law.

The Commissioner: The offer is taken subject to the objection made, and the witness may read that part of the record into the record of these proceedings.

Mr. Hanitch: And it is stipulated that that will stand in lieu of the original record?

The Commissioner: It is so stipulated.

Witness (reading): "Supervisor Berlinger moved that the County Clerk be instructed and authorized to furnish each supervisor with pocket copies of Charles Lagro's new map of Douglas County, which motion was carried unanimously."

Q. Now read from page 357.

A. On page 357 it reads: "The following resolution was adopted: Resolved by the County Board of Douglas County that the County Clerk be and is hereby instructed and authorized to furnish the offices of the county officers and each school room in the county with a wall map of Charles Lagro's new map of Douglas County; the expense to be carried by the County."

On the same page is a list of claims allowed by the County Board. At the top of the page it reads: "Number of Claims; Name of Claimant; Nature of Claim; Amount Allowed; Amount Disallowed," and under "Number of Claim" appears "752;" under "Name of Claimant, Charles LaGro;" under "Nature of Claim, 12 maps of T. C. (bound):" under "Amount Allowed," "\$20.25."

Q. Mr. Leader, state whether or not a copy of this Minnesota Exhibit 26 was in the County Clerk's office when you went into that office and hung on the wall there?

A. Oh, yes, it hung there for a great many years—such a map.

Q. State whether or not that map was one that was generally used throughout the City of Superior, and the County, as a map of Douglas County, and showing the waters and land?

A. Yes, sir.

Cross-examination.

By Mr. Gard:

Q. It is not any part of the County Clerk's duties to get out a map such as this one, is it?

A. No, sir.

Mr. Hanitch: That is objected to as calling for a conclusion of law.

The Commissioner: The witness may answer; we will take it subject to the objection.

A. No, sir.

Q. And you do not know of any authority that existed in 1889 for the County Clerk to get out a map, as an officer, do you?

A. No, sir.

Mr. Hanitch: Same objection.

The Commissioner: Same ruling.

478 Q. And was this map gotten out as an official map in any way?

Mr. Hanitch: Same objection.

The Commissioner: Same ruling.

A. No, sir; it was a commercial enterprise on Mr. Lagro's part.

Q. Mr. Lagro was County Clerk, was he, at the time he sold those copies to the County?

A. Yes, sir.

Q. Mr. Leader, did you ever know of this map to be referred to



for the purpose of determining where the state line was between Minnesota and Wisconsin?

A. No, sir.

(The witness was excused.)

(A short recess was here taken.)

OLON J. BUCK being duly sworn as a witness on behalf of the State of Minnesota, testified as follows:

Direct examination.

By Mr. Bailey:

Q. Mr. Buck, where do you reside?

A. Minneapolis.

Q. How long have you lived there?

A. It will be three years next month.

Q. What position do you occupy?

A. I am associate professor of history in the University of Minnesota, and I also hold the position of secretary and superintendent of the Minnesota Historical Society.

Q. And how long have you held that latter position?

A. Since November, 1914.

479 Q. And as such assistant secretary you have charge of the records and files and books of the Minnesota Historical Society, have you?

A. I have.

Q. When was the Minnesota Historical Society organized, do you know?

A. 1849.

Q. And what is its business?

A. To collect and preserve materials for the history of Minnesota and the northwest in general.

Mr. Fryberger: What was the date of that organization?

Witness: 1849.

Q. And has it a building of its own now?

A. A building has been constructed for it by the State of Minnesota, but it is not yet occupied, not quite completed.

Q. About what cost?

A. Half a million dollars.

Q. And to what extent has it accumulated publications and files and records? That is, I mean can you give some idea as to the number it has?

A. It has a library of approximately 125,000 volumes.

Q. And is its especial business to collect ancient records and records relating to biography and population, and all that sort of thing, as it goes along and as it can get them?

A. Yes, sir.

Q. Now, at the request of General Smith and at my request have you made some search amongst the records of the Minnesota His-

torical Society for records and publications amongst its files pertaining to the boundary between Minnesota and Wisconsin?

A. A very brief search, yes, sir.

480 Q. You just commenced that when?

A. Saturday afternoon.

Q. Last Saturday.

A. Yes.

(A map in a small volume produced by the witness was marked Minnesota Exhibit 47.)

Q. Calling your attention to Minnesota Exhibit 47, I will ask you if that is one of the files of the Minnesota Historical Society?

A. It is.

Q. And if the map in front of this book is a part of the publication and part of your files?

A. It is.

Q. Do you happen to know, or is there anything on here to indicate, when it was acquired by the Minnesota Historical Society?

A. The acquisition number 9,203 would indicate that the book was one of the earlier books acquired by the society, one of the first ten thousand books acquired by the society.

Q. Could you tell about when that would bring it, what year, somewhere along?

A. I presume that book was acquired before 1870.

Q. I see the map is dated 1838.

A. Yes, sir.

Q. And attached to a book which is entitled, on the title page, "Observations on the Minnesota Territory, Chiefly on that Part called the Wisconsin Land District, Exhibiting the Settled Parts of the Territory as laid off in Counties by the Act of the Legislature in 1837." And I see in lead pencil below that the name "William R. Smith." Do you happen to know what that name indicates?

A. That has been written in by the cataloguers to indicate the name of the author, and it is found printed at the end of  
481 the preliminary remarks, thus showing that he is the author of the book.

Q. And I see it is "Entered According to the Act of Congress in 1888." You understand that to be a publication gotten out about the year 1838?

A. Yes, sir.

Mr. Bailey: We will offer Minnesota Exhibit 47 in evidence. What we are offering it for is particularly the map which is included in the publication, but Mr. Buck tells me that he would prefer not to have the map torn out.

The Commissioner: You have a photograph of the map, have you?

Mr. Bailey: No, I have not photographs of the map, but I think we will just let the whole thing go, although the map is what we are offering it for.

The Witness: You can take that out if you want to. I have not any objection to your taking that out.

Mr. Bailey: Talking with the Attorney-General and Mr. Fryberger, they seem to think we may have to print everything that is offered, and we are not offering this for the reading matter. So, with the consent of counsel, I will withdraw the reading part of the book and simply offer the map.

Mr. Fryberger: Cannot we have an understanding, Mr. Bailey, that you may offer a photograph of this?

The Commissioner: I presume you want to retain that in the Historical Society library?

Mr. Bailey: Yes.

482 The Commissioner: Make your offer of the map, or such parts of it as you want to.

Mr. Bailey: Will you stipulate that the map may be photographed and the photograph substituted for the original, that we may have that done, withdrawing it for that purpose?

Attorney-General Owen: Yes.

Attorney-General Smith: I think before we get through we can perhaps make an arrangement with Judge Roberts by which we can exclude from the record immaterial matters. We had one case where our printing bill was over \$9,000.

Attorney-General Young: Perhaps we can get up a precept.

(Another small volume produced by the witness and a map therein marked Minnesota Exhibit 48.)

Q. Mr. Buck, showing you—

The Commissioner: Wait a minute, Mr. Bailey, and let us finish up with this other first. Now, Mr. Bailey, do I understand you offer the map only in this last exhibit 47?

Mr. Bailey: Yes, I think so; at any rate we do not want to print the volume.

The Commissioner: Have you any objection to the map, Mr. Owen?

Attorney-General Owen: I want to ask some questions about this map.

Mr. Bailey: Do you want to cross-examine now, or wait until we get through?

Attorney-General Owen: Just with reference to the admissibility of this map.

483 Mr. Bailey: All right.

Examined by Attorney-General Owen:

Q. Now, Mr. Buck, have you read any part of this volume to which this map is attached?

A. I glanced over some parts of it the other day.

Q. And from your observation what does the volume appear to be?

A. My impression is that it is just simply an account of a man's observations in Wisconsin territory.

Q. Do you know who this man Smith was?

A. I do not.

Q. Do you understand that Mr. Smith prepared this map?

A. I do not.

Q. Who, do you understand, prepared the map?

A. I think there is an inscription on it which states that.

Q. The map purports to have been compiled and published by Hinman and Dutton of Philadelphia, does it not?

A. Let me see it.

Q. Now, then, do you notice the note at the bottom of page 2, which says "Messrs. Hinman & Dutton of Philadelphia have lately published an accurate map of Wisconsin with the new counties laid off. This map is attached to the works, although the text has not been altered."

A. I had not noticed it.

(The book was handed to the witness and he examined the same.)

Witness: There is such a note; yes, sir.

Q. How do you construe that?

A. I should consider it an obscure statement. I am unable to say whether by the text the writer means the text of the  
484 book or the text of the map. I do not know what the meaning of that statement is.

Q. Would it indicate that this was a reprint of a former work?

A. The map, you mean?

Q. The book.

A. No, it would not, to my mind.

Q. Might it indicate that the publishers had put that there themselves, on their own responsibility?

A. That is a possibility.

Q. That would be inferred from the statement that the text has not been changed, if it refers to the text of the book, would it not?

A. It might. The meaning is not clear.

Q. Now, you do not know whether that is a map of general circulation or not, do you,—in general use?

A. I know that the firm of Hinman & Dutton were established map makers, and from that I should assume that this was one of their regular commercial maps, made for general circulation.

Q. And that is all?

A. That is all.

Q. However, this is the only copy of that map that you ever saw?

A. So far as I definitely recollect.

Q. Now, from your cursory glancing over of this work, does it appear how long Mr. Smith spent looking over the State of Wisconsin or the territory of Wisconsin?

A. I have not examined the work with sufficient care to answer that question. I do not know. My time was very limited.

Attorney-General Owen: Now we object to the receipt of the map in evidence on the ground that it is incompetent, irrelevant, and immaterial and has not been properly authenticated.

485 The Commissioner: Just let me see that. (After examination): It purports to be an ancient map, and it may be admitted subject to the objection. Now do you stipulate, gentlemen, that the State of Minnesota may make a photographic copy of the map and substitute it for the original?

Attorney-General Owen: Yes, we stipulate that, although I think you ought to leave this volume here so that we can have an opportunity to glance it through and see who Mr. Smith is or what his work purports to be. Have you any objection to that?

Attorney-General Smith: Not to leaving it here for temporary purposes.

Attorney-General Owen: That is all.

Mr. Bailey: But Mr. Buck would like to get it back.

The Commissioner: I hope counsel for Minnesota will proceed with all diligent speed to get a photographic copy of the map. Or I suppose you may make a photograph of such parts of it as you want to or think are material.

By Mr. Bailey:

Q. Calling your attention, Mr. Buck, to Minnesota Exhibit 48, I will ask you if that which purports to be a sectional map of the surveyed portion of Minnesota and the northwestern part of Wisconsin, as stated on the title, and which on the first page of the binding is described as Sewell's map of Minnesota, sold wholesale and retail by George Little, Catholic Block, Third Street, St. Paul, sole agent for Minnesota, sent by mail, postpaid, on receipt  
486 of \$1.25, St. Paul, 1864," if that is one of the files and records of the Minnesota Historical Society.

A. It is.

Q. And can you tell about when that was acquired by this society?

A. Presumably about the time it was published.

Mr. Bailey: We will offer that in evidence and would like also to have it stipulated that that may be photographed and the photograph substituted for the original.

Attorney-General Owen: We object to the receipt of this exhibit 48 on the ground that it is incompetent, irrelevant and immaterial, and has not been properly authenticated.

The Commissioner: It may be received subject to the objection. Now do you make the same stipulation with reference to a photograph of that too?

Attorney-General Owen: Yes, sir.

The Commissioner: You may let the record show that it is stipulated that the State of Minnesota may make a photographic copy of the last exhibit, or such part thereof as it deems material, and substitute the photograph for the original.

(A small pamphlet was marked Minnesota Exhibit 49.)

Q. Mr. Buck, calling your attention to a pamphlet marked Minnesota Exhibit 49, I will ask you if that is one of the records of the Minnesota Historical Society.

A. It is.

Q. And this appears to be entitled, on the first page at any rate, as "Accompaniment to the Map of Minnesota," but there is  
487 no map attached to this particular pamphlet. I will ask you if the Society has another pamphlet with the map attached.

A. It has.

Q. And you have examined that map with reference to this particular case, have you?

A. I have.

Q. Does it show any part of Lake Superior or the St. Louis River, or anything in that vicinity?

A. It does not.

Mr. Bailey: Now Mr. Buck wants to arrange so this can be taken away, but left here long enough for you to examine it as much as you want to, and there is just one clause I want to get in.

Attorney-General Owen: Read it.

The Commissioner: It does not appear yet how old that is.

Mr. Bailey: It will appear soon. I was going to ask Mr. Buck next. There is no date on the outside.

Q. Mr. Buck, have you examined this to see whether there is any indication as to when it was published?

A. I have.

Q. Did you find anything in the text itself which indicates when it was published?

A. I find the following statement, on page 9: "At the present time, April 1850, the population of Minnesota," and so forth, which indicates that the pamphlet was written in April, 1850.

Q. And can you tell about how long that has been in the collection of the Minnesota Historical Society?

A. I have no means of telling that with any definiteness except that it has a note on the back, written in ink, signed by Alfred J.  
488 Hill, who was at one time connected with the society, and dated 1885, which indicates that it has been the property of the Society since 1885.

Q. Can you tell by an inspection by whom that was published or gotten out?

A. By Thomas, Cowperthwait & Co., Philadelphia.

Q. Were they map publishers?

A. They were.

Q. Do you know what the title of the map is which accompanied that?

A. The map is entitled "Map of the Organized Counties of Minnesota published by Cowperthwait of Philadelphia in 1850."

Q. You say that the particular map does not come up as far as the Lake Superior and the St. Louis River?

A. Yes, sir.

Q. Do you find any statement in this pamphlet with reference to the St. Louis River and the head of the lake? If so, please designate the page and read into the record the statement which you find.

A. I find on page 4 of this pamphlet the following statement: "The St. Louis River, which empties into the western extremity of Lake Superior, or Fond du Lac, as it is called, is navigable near its mouth, but like all the streams which flow into Lake Superior, it is full of falls and rapids. Near the mouth there is a settlement of half-breeds, a Chippewa Indian village, and an Indian trading house."

Q. Of how many pages does this publication consist?

A. Sixteen pages.

Q. And the size of its pages is about five inches by three inches?

A. About 3 by 5.

Mr. Bailey: Unless it is desired, I think we will not offer  
489 this in evidence, but we will leave it here so you can examine it if you like. We do not want to print it all, that is all. We offer that part that the witness has read, of course.

Attorney-General Owen: Yes, we understand that.

The Commissioner: Any objection to that?

Mr. Bailey: And I take it, it may be understood that what the witness has read stands in lieu of the original?

Attorney-General Owen: Yes.

(A cloth-bound volume produced by the witness was marked Minnesota Exhibit 49.)

Q. Mr. Buck, calling your attention to Minnesota Exhibit 49—the quickest way is to ask you to describe just what that is.

A. It is a book entitled, "Collections of the State Historical Society of Wisconsin. Edited and Annotated by Reuben G. Thwaites, Corresponding Secretary of the Society. Vol. XI. Published by Authority of Law. Madison, Wisconsin. Democrat Printing Company, State Printers. 1888."

Q. Is this particular volume a part of the Minnesota Historical Society's collection?

A. The Minnesota Historical Society possesses a duplicate of this volume. This particular copy belongs to me personally.

Q. State what you know as to whether that is a well-recognized publication of the Wisconsin Historical Society?

A. It is.

Q. What, if anything, do you know of the editor or his reputation—Mr. Thwaites?

A. Dr. Thwaites was for about twenty-five years secre-  
490 tary and superintendent of the Wisconsin Historical Society, and was one of the leading authorities on the history of the Northwest.

Q. This is a volume of how many pages?

A. 548.



Q. And I take it, of course, this publication was in general circulation after it was issued.

A. Yes, sir.

Q. Relating to these matters, and well recognized by historians?

A. Yes, sir.

Q. Now, do you find in this publication a reference to the state boundary between Wisconsin and Minnesota at the head of the lake and along the St. Louis River?

A. It contains an article entitled "The Boundary of Wisconsin, by the Editor."

Q. And did you find, on page 493, a paragraph or statement with reference to the survey of this boundary by Mr. Stuntz?

A. I do.

Q. Will you please read into the record the paragraph you have indicated?

A. (reading) "In 1852 the general government employed George R. Stuntz to run and mark the land line from 'the first rapids in St. Louis River, above the Indian village, according to Nicollet's map, thence due south to the main branch of the river St. Croix.' He performed the task with the aid of nine men, between October 20 and November 18. The site of Nicollet's Indian village is known as Fond du Lac, being from Lake Superior. It is at the point where the waters of the lake ordinarily meet, in a narrow bay, those of the river. The point of juncture, however, varies with the height of the water-level in the lake—in some years and in some seasons receding, while advancing in others. When Mr. Stuntz arrived, he was assured by the Chippewa chief at Fond du Lac that the first rapids of the river were opposite a trading warehouse at his village. But the water being high, no rapids were visible at this place. Whereupon, the surveyor proceeded up stream to a point where he was no longer able to propel his canoe with a single paddle, against the rushing current. Here, where the river runs due south for a few rods, he decided the "first rapids" to be; and on a high bluff, a quarter of a mile due south of this, he set his first post in the boundary. His plan of establishing the location of the first rapids was accepted by the topographical bureau; and thus Wisconsin gained, by the high water which chanced to prevail at the Fond du Lac that October day, thirty-six years ago, a ribbon of dense pine forest forty-two miles long by about half a mile broad."

The Commissioner: That is the official publication of the Historical Society, is it?

Witness: Yes, sir.

The Commissioner: I guess that accords with the testimony spread upon the record.

Mr. Bailey: I guess that confirms the testimony of Mr. Merritt about giving the axe to the Minnesota Historical Society.

Mr. Fryberger: Yes, but he ought to have given the axe to Wisconsin, but he didn't.

492 Mr. Bailey: Yes.

The Commissioner: The offer is received.

(A map was marked Minnesota Exhibit 50.)

Q. Calling your attention to Minnesota Exhibit 50, I will ask you if that is one of the files of the Minnesota Historical Society?

A. It is.

Q. Do you know whether it was acquired about the time—

A. There is no date on it.

Q. Do you know about when it was acquired?

A. Presumably about 1887, when it was published.

Q. And what was that map taken from, or what is it a part of?

A. The map is Plate No. 20, taken from a portfolio entitled "Atlas Accompanying Volume 3 Geological Survey of Wisconsin, T. C. Chamberlain, Chief Geologist, 1877." The map itself is entitled "Douglas County and parts of Bayfield, Burnet and Ashland Counties, North of Town 43, by E. T. Sweet; South of Town 44 by Moses Strong."

Q. Well, it is entitled, even on top of that, Wisconsin Geological Survey, T. C. Chamberlain, Chief Geologist," is it not?

A. Yes, sir.

Q. And do you understand that to be an official publication by the Geological Department of the State of Minnesota?

A. An official publication of the Geological Survey of Wisconsin; yes, sir.

Q. Under state authority of Wisconsin?

A. Yes, sir.

493 Mr. Bailey: We will offer Minnesota Exhibit 50 in evidence.

Q. I think you have testified, Mr. Buck, that this publication was in 1877?

A. Yes, sir.

The Commissioner: Any objection to Exhibit 50?

Attorney-General Owen: I object to this as incompetent, irrelevant and immaterial, and for the further reason that it is not the function of the geological survey to locate boundary lines, and it was not the purpose of this map to indicate the boundary line between the State of Minnesota and the State of Wisconsin.

The Commissioner: It is sufficiently old. It will be received subject to the objection.

Q. Mr. Buck, of what school are you a graduate?

A. The University of Wisconsin.

Q. In what year?

A. 1904.

The Commissioner: Now do you desire to photograph this sheet?

Mr. Bailey: We would like to have the same stipulation with reference to that that we have with reference to the previous exhibits,

as to photographing and substituting the photographic copy in place of the original. Is that satisfactory, General Owen?

Attorney-General Owen: We are going to make a similar request as we proceed with our case. I suppose there will not be any objection from your side?

Mr. Fryberger: Oh, no.

A recess was here taken until two o'clock P. M.

494 Cross-examination.

By Attorney-General Owen:

Q. Mr. Buck, I presume there are great quantities of maps in your historical library down there?

A. Yes, sir.

Q. And a great many maps of the State of Wisconsin?

A. I should think so, yes, sir.

Q. They are all kept in a department or room by themselves, are they?

A. Our quarters are very cramped and maps are kept in various places. Many of them in vaults; many of them are in together with the pamphlets and in various places. The society now occupies simply a few rooms in the basement of the Capitol and the maps have never been classified, and are not in very good arrangement.

Q. In your search for maps did you find any maps of the State of Wisconsin except those that you brought here?

A. Oh, yes.

Q. How many would you say?

A. Why, it would be impossible for me to give any definite number of how many maps we have of Wisconsin, other than that there are other maps of Wisconsin.

Q. You found other maps of the head of the lakes region here besides these that you brought?

A. Yes.

Q. Why did you pick out these particular two or three maps to be brought up here?

A. Because they seemed to throw light upon the location of the boundary.

Q. Were those the only ones that threw light on it?

A. There were none that threw any additional light on it that I saw.

Q. Or any different light?

A. Yes, or any different light on the location of the boundary.

Q. Where is the map that came out of this pamphlet?

495 A. There is a folder with a map in it right under there (indicating).

Q. You had three here, didn't you; you brought three maps, didn't you, altogether?

A. I think so. I think there were three introduced. There was another one in the book, I think. You took the book with you.

Q. I asked you to look at the head of Lake Superior as it will be

found on Exhibit number 47, Minnesota, that map doesn't show any Wisconsin or Minnesota Points, does it?

A. I consider these points right there (indicating) are intended to indicate Wisconsin and Minnesota Points. I think these are intended to represent Wisconsin and Minnesota Points; they are very small.

Q. They don't come very close together, do they?

A. The map is on a very small scale and the details are not very accurately drawn.

Q. Did you see any other map in your library that portrayed the head of Lake Superior as that map portrays it?

A. Not exactly, no. Similar, not exactly.

Q. What was the difference between those and the way the maps generally portray it?

A. It is portrayed in various ways. I should say that this is an old and comparatively rough drawing.

Q. Not particularly accurate drawing?

A. It wouldn't be considered accurate if it were on a larger scale. It is a very small scale map and the details, I should say, aren't particularly accurate.

Q. You read into the record this morning an extract from 496 Minnesota's Exhibit number 49. Now I will ask you to read into the record an extract to be found on page 5, commencing there (indicating).

A. "Large quantities of white fish and trout are already taken at the mouth of the St. Louis River and its vicinity, and as the population increases in amount along the shores of the lake the fisheries will be largely extended."

By Mr. Bailey:

Q. Do you know whether the whole upper part of the lake was generally spoken of in historical works as Fond du Lac or Bay of Fond du Lac?

A. It was frequently so referred to, Fond du Lac Bay.

By Mr. Owen:

Q. What does Fond du Lac mean?

A. I looked up the word Fond du Lac in a standard French dictionary, the word "Fond." I did not find the word "Fond du Lac," which is made up of three French words, means head of the lake. The word "Fond" has varying meanings. One of these meanings is "upper end" or "remotest part," and that is undoubtedly the sense in which it is here used,—upper end or remotest part of the lake.

Mr. Bailey: I think that is all we have to offer at the present time.

Attorney-General Smith: I think it is proper to say that I was notified to produce before you today certain documents, and I have produced them to the best of my ability and would like to explain why I have not absolutely conformed with the notice in all respects.

The first document which I was asked to produce was a letter 497 addressed to the Governor of the State of Minnesota by D. D. Gaillard, captain of engineers, U. S. A. I have produced

that original letter and ask that the defendant substitute for it a copy.

Attorney-General Owen: We will read it into the record and let you have the original.

Attorney-General Smith: The next document was the original letter written by M. H. Hovey, safety service expert of the Minnesota Warehouse Commission. I have produced a duly certified copy. The Commission declines to furnish the original. The next was the letter written by W. D. Pence, engineer of the Railroad Commission of the State of Wisconsin to F. B. Jurgeson, engineer of the Minnesota Railroad & Warehouse Commission. I have also furnished a certified copy of that letter. The next documents demanded were originals. Original statement of the position of the legislative committee appointed by the legislature of the State of Minnesota with reference to the boundary. I have not the original statement available and it is probably destroyed. I have produced in place of it the official journal of the Senate of the State of Minnesota for the day when the report was presented, and tender the journal of the Senate, asking that that be read in and that the journal be returned to us, as they are somewhat scarce. The same is true substantially of the last document asked for, which was the original or certified copy of the report made of the 1913 legislature of the State of

Minnesota, by the committee appointed by the 1911 legislature of the State of Minnesota. That is also found in this same journal, and we ask the same as to that.

The Commissioner: Is the response satisfactory?

Attorney-General Owen: I think so, yes.

499 LAWRENCE MARTIN was called as a witness on behalf of the State of Wisconsin, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Attorney-General Owen:

Q. Mr. Martin, where do you reside?

A. Madison.

Q. What is your profession or vocation?

A. I am associate professor of physiography and geography of the University of Wisconsin.

Q. How long have you occupied that position?

A. Eleven years.

Q. What was your vocation prior to that time?

A. I was a student of geology.

Q. Where did you study geology?

A. Cornell and Harvard.

Q. Did you graduate from both of those institutions?

A. Yes, sir.

Q. Since your graduation you have been engaged in the teaching of geology, have you?

A. Teaching, and in the investigation of geological problems.

Q. How extensive have your investigations been?

A. I have worked in the field every summer since 1903.

Q. Every summer since 1903?

A. Yes, sir.

Q. About how much of the time during the summer?

A. Three or three and a half months.

Q. What parts of the country have you conducted these investigations in?

A. I have done a great deal of work in Wisconsin and the part of Minnesota around the head of the lakes. Some in Michigan.

500 I have worked in Pennsylvania and New York and in Alaska.

Q. How many seasons were you in Alaska?

A. Six.

Q. How many seasons have you worked in and about the head of the lakes, in Wisconsin and Minnesota?

A. One whole season and parts of two others.

Q. I will ask you to state whether you have written any articles or published any books upon the subject of geology and physical geography?

A. Yes; I have written several reports for the United States Geological Survey and the Geological Survey of Wisconsin. Several things have been published by publishing houses and in magazines.

Q. Did you publish a work on physical geography?

A. Yes, sir.

Q. What is that known as? What is the name of that work?

A. You mean a general work on physical geography?

Q. Any sort of a work. If it isn't general, you can say what it is.

A. I published a special discussion of the physical geography of the Lake Superior region that was published in one of the monographs of the United States Geological Survey; then I published a special book on the physical geography of Wisconsin, discussing this region somewhat, and I edited a large work, college text-book, on the subject of physical geography, which of course discusses rivers and shore lines and features of that sort, but I was not the author of the whole of that work?

Q. What is the name of that work?

A. That is called "College Physiography."

Q. Do you know whether that is used as a text-book in  
501 college institutions?

A. Twenty or thirty colleges in the United States use that as a text-book.

Q. Are you in the employ of the Government Geological Survey?

A. I am a member of the United States Geological Survey, working for them during summers, during my college vacations.

Q. And do you belong to any geological associations?

A. I belong to the Geological Society of America and the Association of American Geographers, and I am an honorary member of various geographical societies.

Q. Are you familiar with the waters known as the St. Louis River

and the Bay of St. Louis and the Bay of Superior at the head of the lakes?

A. Yes, sir.

Q. Will you give us some idea of the extent of your investigation of the territory adjacent to these waters?

A. In 1907 I was sent here by the United States Geological Survey to study this region and to write a description of the physical geography and of the glacial geography of the Lake Superior region. I spent the whole summer around Lake Superior, and of that time I spent several weeks around Duluth and Superior.

Q. From the knowledge of these waters gained at that time you may state whether in your opinion the waters generally referred to as the Bay of St. Louis and the Bay of Superior, are part of St. Louis River or part of Lake Superior?

A. They are part of St. Louis River.

Q. Now, upon what do you base that conclusion? State your reasons for saying that they are part of the St. Louis River?

502 A. I state that because that would be the generally accepted interpretation by any geographer or geologist. That is, a river is a feature with banks and a flowing current, and as I see it St. Louis River has banks all the way from a way back to its source down past the City of Superior and out to the Superior Entry. It has a flowing current for that distance.

Q. State whether or not in your judgment there was always that broad expanse of water that is now referred to as the Bay of Superior and the Bay of St. Louis?

A. No, sir. There was a time back in what geologists call recent times, although we talk about a little matter of 50,000 years, don't regard it of much account, when there was a narrow river all the way down through here, similar to the St. Louis River, above Fond du Lac. That river was drowned in its lower course and made into an estuary.

Q. That river was drowned, you say?

A. Yes, sir.

Q. What do you mean by that?

A. I mean that the waters of Lake Superior have backed in there through a tilting of the earth's crust in this general part of the world and have submerged the river channel and made it into that broader type of river that we call an estuary.

Q. Is it a generally accepted fact among geologists that there was a tilting of the earth's crust in this locality?

A. That is accepted by the geologists.

Q. Explain what you mean by that tilting of the earth's crust and also explain the effect that it had upon the flow of Lake Superior?

503 A. We know that the shore lines of the lake are horizontal because lake surfaces are horizontal, of course taking into account that there is a curvature of the water body, a natural broad curvature. We know that Lake Superior had a higher level than the present lake. The water was about 500 feet deep here at Superior and Duluth and we can trace the beaches of these higher



lakes and we find that these beaches are not horizontal; they rise towards the northeast. Therefore, we conclude that the land has been tilted. The effect of that has been to back the waters of the lake into the mouths of all the streams on the south, southeast end of the Great Lakes, and to make a series of estuaries which they use for shipping port here and which they use for receiving ports at the towns on the south side of Lake Erie to receive our iron ore. As supplemental proof of the tilting here we take into account the form of the estuary. That is, it is a branching body of water such as you would get by submerging a river and its branches. Any geologist or geographer looking at a map of these waters would say at once that it is a drowned river; and then to back that up we have the statements of people who came here in early times, that they found the stumps of trees submerged.

Q. Why would the geographer say at once that this was a submerged river?

A. Because he knows the form of an ordinary river. That is a river and its branches make a pattern something like that of a tree and its branches, and he reasons out that if you fill that with water the water would back up the tributaries and make a branching pattern, an estuary.

504 Q. The Big Pokegama and Little Pokegama Bay furnish an example of that?

A. Those are drowned tributaries of the drowned St. Louis River.

Q. And before the water backed up in here those were small valleys—

A. Yes, sir.

Q. On the surface of the earth. Have you studied the points known as Grassy Point, Connors Point, Rice's Point, Minnesota and Wisconsin Point?

A. Yes, sir.

Q. With a view of judging how they were formed?

A. Yes, sir.

Q. Starting with Grassy Point give us your opinion as to how that point was formed?

A. Grassy Point is the hardest one in the group. It is the hardest one in the group, the most complicated one of the group to classify. It seems to me clear, however, that it is of entirely different origin than the other four that you mentioned. I think it is a spur between two drowned valleys like the higher spurs between Pokegama Bay and the next bay, and all of the other points that we have up river from Grassy Point, and that it is lower than the others because the waves or the waters of the bay, or both, have cut in there and cut away the original deposit. Then a little sand and silt have been laid on that surface and then man has filled in a little more. Connors Point and Rice's Point, a pair, and Wisconsin Point and Minnesota Point, a pair, are built by the waves of the lake and the along-shore current of the lake in a place where there was no previous land.

Q. State how in your judgment those points were built up?

505 A. It is a combination of two things. The waters of the lake are oscillating. They are in waves, caused by the wind, and there is an up and down motion of the water which doesn't affect the bottom where the water is deep. When you get into the shallow water the up and down movements or oscillation of the water is interfered with and so the wave is overturned and that makes breakers or surf, and the overturning causes the stirring up of the bottom and the heaping up of gravel and sand there. Then the currents along shore in the lake carry material that the waves have worn from the head lands along and at certain points where there is an angle in the coast these currents turn out into the deeper water, carry the material out and drop it when they get into such deep waters that the current is checked, and such combination of the work of the waves and the work of the along-shore currents built Connors Point and Rice's Point first, and then subsequently built Wisconsin Point and Minnesota Point.

Q. Was Minnesota Point in your judgment built throughout its whole length at the same time or did it start at the Minnesota shore and was gradually carried out?

A. As it shows above the surface of the water, it was built first from the Minnesota end, but below water there was a gradual shoaling there, so we may say that all of it was being built up a little bit at the same time, and Wisconsin Point also at that time.

Q. But progress was made faster near shore?

A. Naturally in the shallow water.

Q. Do you think that the river water had anything to do with forming any of these points?

A. Nothing.

506 Q. Nothing whatever?

A. No, sir.

Q. What do you say as to their being tides in Lake Superior?

A. There are several kinds of movements of water here, and one of them is a true tide. That is, the geographer uses the name tide only for the rise and fall of the waters' surface in relation to the attraction of the moon or the sun and moon combined. Now, there is an actual tide of about three inches in the west end of Lake Superior. In addition to that there is a rise of the water in relation to the blowing of the wind over the surface, and this you call a wind tide. The wind being from the northeast piles the water up at the west end of the lake. And then besides that there is a third thing that is called seiches and that is a phenomena due to barometric pressure. When that pressure is high out in the middle of the lake and low at the head of the lakes the pressing down of the column of air out in the middle of the lake causes a rise of the water at the end, and the rise amounts to as much as a foot in some places, like the south end of Green Bay where the bay narrows to a V point, and I think a little less at the west end of this lake. These three things can be told apart because you can measure the air pressure; for the last one you can discover the direction of the wind for the so-called wind tide, and you can keep account of the

time and know the position of the sun and moon in relation to what we call the true tide.

Q. Are any of these various phenomena that you have mentioned,—have they any influence upon the waters of the Bay of Superior or the Bay of St. Louis?

A. Yes, sir. The one that has the most influence, of  
507 course, is the so-called wind tide which upsets the normal outward flow of current through the Superior entry and the Duluth entry.

Q. The effect of the wind would be quite perceptible clear up the St. Louis Bay if the wind blew strong enough?

A. I don't know how far up but piling up of the water in this whole western end of the lake beginning way out beyond the Apostle Islands would naturally result in a rise of the water in this estuary.

Q. Would the barometrical pressure also have an influence upon the water in the bay?

A. Yes, that is because the water levels arise when there wasn't any wind blowing.

Q. What about what you call the true tide; is that noticeable in the bay?

A. I am told that it is. I have never seen it, but it is a very delicate matter to measure because you have to take into account the complication of the other two when you measure and then compute when the moon would cause the big tide, but I am told that that has been carefully computed by the United States Coast & Geodetic Survey.

Q. You say that tide amounts to about three inches in the lake?

A. Yes, sir.

Q. Does it amount to about the same thing in the bay?

A. I suspect that three inches mentioned is in the bay rather than the lake.

Q. You are familiar with the geological writings of President Van Hise of the University?

A. Yes, sir.

Q. Have you familiarized yourself with his work on the  
508 formations of iron ore, which I think he terms the theory that Mr. Merritt referred to in his testimony as the trough theory?

A. You mean the basin theory?

Q. Basin theory.

A. Yes, sir. I know it as it is explained by geologists. My own special line of work is not the study of iron ore but I know it is accepted by geologists.

Q. Did you read Mr. Merritt's testimony in this case with reference to what he called the trough theory and in which he stated that about ten years after his discovery of the trough theory President Van Hise published the theory and gave it the name of the basin theory?

A. Yes, sir.

Q. You may state whether or not the so-called basin theory, as

expounded by President Van Hise, is anything like the theory that Mr. Merritt described?

A. Doesn't resemble it in any respect whatever.

Q. What is the basin theory?

A. If the iron ore that Mr. Merritt alluded to was this of the Missabe Range. It is that there was laid down in the sea a deposit not dissimilar to limestone. It contained a great deal of quartz and a small amount of iron, and as iron ore it is worthless because the percentage of iron was too low. After a long, long period the action of underground water on that deposit the quartz was removed. The iron, therefore, not increased in amount but increased in percentage, becomes commercial ore, and it was oxidized during that period. The reason that the underground water could perform that work of carrying away the quartz and oxidizing the iron was that  
509 there was below this iron ore an impervious bed of quartzite through which the underground water could not penetrate. The underground water therefore circulated along through this iron formation, removing the quartz from part of it, making ore of it, and left the rest of it in its original condition. That is the essential part of the explanation of the origin of the Missabe iron ores.

Mr. Bailey: According to Van Hise.

The Witness: Yes, sir.

Q. Now, how does that theory differ from what Mr. Merritt described as his trough theory?

A. Mr. Merritt's trough theory I understand to be that the waters of the ocean carrying iron came in contact with ice, and thereafter deposited the iron.

Q. What have you to say about the feasibility of that theory?

A. It wouldn't work.

Q. Why not?

A. In the first place, we don't know of any water carrying the iron in such quantity that when the iron was precipitated it would make ore. In the second place, we know that this ore was made a good many million years before there was any ice around; and in the third place, you have present there a part of the original deposit from which the iron ore was really made.

Q. So that there is no similarity whatever between the theory put forth by Mr. Merritt and the theory that is known as President Van Hise's basin theory?

A. Absolutely none.

Q. How long were those points in forming, according to your judgment?

A. Many thousands of years. It is hard to make a very  
510 specific statement about that. Do you care to have me go into that?

Q. Yes.

A. We know from the Meade chart and the modern charts that between 1861 and the present time the modification has been trifling. That is fifty years. We know that the time when the glacier went away was perhaps 30,000, perhaps 80,000 years ago, and that the points were made after that. Our experience since we came here

or since people came here and made maps shows that in fifty years a very trifling accretion has been made; but as to whether it took the whole 50,000 or 30,000 years to make the points or not I couldn't state positively.

Q. Do you think that these points were here substantially in their present form say a hundred years ago?

A. Absolutely.

Q. In substantially the form we now see them?

A. I would just as soon say a thousand years.

Q. I ask you to look at page 456 of the volume entitled "Geographical Survey Monograph 52, Geology of Lake Superior Region." Do you see a map on that page?

A. Yes, sir.

Q. What is that a map of or what does that map represent?

A. That represents the region around the head of the lakes as I conceived it was at the Nipissing stage of Lake Superior.

Q. Do you know who made that map?

A. I made that map.

Q. And that, you say, represents your idea of the head of Lake Superior at the Nipissing stage?

A. Yes, sir.

Q. What is the Nipissing stage and when was it?

A. Nipissing stage was the last stage of the Great Lakes before the present. It is the time when the waters of the Great Lakes went down the Ottawa River from the east end of Lake Huron 511 instead of down the present St. Lawrence River.

Q. There was a time when the waters went down the Huron instead of the St. Lawrence River, was there?

A. Yes, sir.

Q. Can you give any estimate of how many years ago that was?

A. I will state 30,000 years, just to give a general figure at least 30,000 years ago.

Q. And on this map you have indicated the St. Louis River before it was submerged?

A. Yes.

Q. Now I will show you Wisconsin's Exhibit numbered 2, and I will ask you to state whether or not that is a correct photographic copy of the map found on page 492 of the work to which I have just referred?

A. No, sir. Page 456.

Q. I mean page 456. It is an exact copy of page 456 that I have referred to?

A. Yes, sir.

Attorney-General Owen: Offer Exhibit numbered 2 in evidence.  
The Commissioner: There being no objection, it will be received.

Q. Now, Professor, I refer you to page 457, of the same work. What map is that on that page?

A. That is a map of the head of the lakes as they are today.

Q. Who made that map?

A. I compiled that map. What I mean is I traced the outlines from an existing lake survey chart of the United States Lake Survey.

Q. It is a map prepared by you, then, is it not?

A. Yes, sir.

Q. And represents the head of Lake Superior as it exists today?

A. Yes, sir.

512 Q. I show you Wisconsin Exhibit number 3 and ask you if that is a correct copy of page 457 of the work just referred to?

A. Yes, sir.

Attorney-General Owen: I offer exhibit number 3 in evidence. The Commissioner: Received without objection.

Q. Now, Professor, the difference between the map on exhibit number 2 and exhibit number 3, showing the mouth of the St. Louis River, is due to the submergence of the river by tipping of the earth in this locality and the consequent backing up of the water, in your opinion; that's right, is it?

A. Yes, sir.

Q. Now are these maps part of an article written by you and appearing in that work?

A. Yes, sir.

Q. What is the name of the article and between what pages will it be found?

A. It is a chapter in this book on the geology of the Lake Superior region, chapter 16; title of the chapter, "The Pleistocene," pages 427, 459.

The Commissioner:

Q. Is that an official publication, Professor?

A. Yes, sir.

Q. Gotten out by whom?

A. United States Geological Survey.

Q. In what year was it published?

A. 1911.

Q. You wrote that chapter?

A. Yes, sir.

Attorney-General Owen:

Q. Under what auspices did you write that? Were you in the employ of the United States Geological Survey?

A. I was in the employ of the United States Geological Survey. The work was done in 1907 for the United States Geological Survey.

513 Q. And that work was issued by the United States Geological Survey?

A. Yes, sir.

Q. And is an official publication of the United States Geological Survey?

A. Yes, sir.

## Cross-examination.

By Attorney-General Smith:

Q. How deep is the lake over what you call the ground river bed?

A. The water in the ground channel is twenty to thirty feet deep, I believe.

Q. And do you put that as the entire depth of the water of the Lake Superior which was pushed back over the St. Louis River between the time when the first map, Exhibit 2, is a correct map of Lake Superior and Exhibit 3 is a correct map of Lake Superior?

A. I think it represents the maximum depth. It was shallower at first.

Q. As a matter of fact, wasn't the setting back of Lake Superior over the old St. Louis River more than fifty feet in depth?

A. I don't know just how to get at that because—

Q. Well, I will add to the question. As a matter of fact, prior to the time of the setting back of Lake Superior over St. Louis River the St. Louis River was a good deal deeper down, of less altitude above sea level than at the present time?

A. Yes, sir.

Q. As a matter of fact, isn't the present altitude of St. Louis River at Fond du Lac over fifty feet above what it was in that vicinity prior to the time of the setting back of the lake?

514 A. I don't believe it is anywhere near as much as that.

Q. Did the stone formation above Fond du Lac exist prior to the time of the tilting of the land at the east end of Lake Superior?

A. Yes, sir.

Q. And there were then falls a good deal more extensive in the vicinity of these sandstone rocks than have been since?

A. I think they are about the same. The falls, as I understand it, were made when the glacier, the continental glacier went away. The St. Louis River was shifted a little bit here and there and at certain places it was moved out of its particular glacier valley, and set down on ledges. This made the falls.

Q. Wasn't the first effect of the passing away of the glacial part and the ice to raise Lake Superior something like 400 feet?

A. Yes, sir.

Q. And then the first movements of this land at the east end of Lake Superior was—become depressed, wasn't it?

A. Not for a long, long time. First of all, the level of the waters kept falling as lower and lower outlets were uncovered. That is the waters from the end of the lake.

Q. There was some thousands of years at the east of Lake Superior was some 400 feet higher than it is now?

A. Yes, sir, many thousand.

Q. Now that continued to sink for some years, some thousand years?

A. The water level continued to sink.



Q. Then there became afterwards a rising of land somewhat in the same vicinity where there had been a falling of land  
515 prior to that time, wasn't there?

A. No, sir. My understanding of the situation is that there was for a long time no change in the level of the land. Our lake, which was 4 or 500 feet deep, was lowered and lowered as new outlets were uncovered with the retreat of the ice of the glaciers.

Q. And continued until it was considerably lower than at the present time?

A. Yes, sir; then the land rose.

Q. Then at that time there was a very extensive rising of the land, which included not only land east of Lake Superior but also land in southern Michigan and Northern Illinois?

A. Yes, sir.

Q. Now was that rise the same ledge, as it might be called, as the rise at the east end of Lake Superior?

A. I think it was the same rise.

Q. Prior to that time Lake Michigan ran into the Mississippi River, didn't it?

A. Yes, sir.

Q. And the boundary line practically between the basin of Lake Michigan and the basin of Lake Huron was where Mackinaw is now?

A. I should think so.

Q. And the waters above the rise became what it is now—the present changes took effect geologically, ran down through Lake Superior and upper St. Mary's River and across into Georgian Bay and over by Lake Nipissing down the Ottawa River?

A. Yes, sir.

Q. And the waters from Lake Erie and Lake Ontario went down the St. Lawrence River?

A. Yes, sir.

Q. Now when this land began to tilt near St. Mary's River, in that vicinity, how far east did that tilting process go on?

516 A. It occupied all the northeastern corner of this continent.

Q. But it didn't go over around Lake Nipissing or the Ottawa River?

A. Yes, sir, there too.

Q. How far east, to Montreal?

A. All the way around the Labrador coast where we have elevated ocean beaches that are tilted.

Q. Was the same tilting process going on at the east end of Lake Superior but not at the west end, extending to Labrador?

A. Yes, sir.

Q. Did that affect the St. Lawrence River materially?

A. Yes, sir.

Q. It didn't shut it off so as to turn the flow of the St. Louis River down through New York, where the Erie Canal is now?

A. No, but it shifted from the Ottawa to the St. Lawrence.

Q. That shifting from Ottawa to the St. Lawrence was done in the vicinity of Georgian Bay?

A. Yes, sir.

Q. Now the map of Lake Superior that you have in the book represents a definite western shore not pointed in character but somewhat oval?

A. Yes, sir.

Q. Now will you tell where that oval west shore of Lake Superior was with reference to the present Minnesota Point?

A. I think it was between Minnesota Point and Rice's Point, as near as I can tell.

Q. Wasn't it west of Rice's and Connors Point?

A. I don't think so.

Q. Have you any means of telling the exact depth of the sunken and drowned St. Louis River below the surface at the time that map was supposed to be made, I mean at the time referred to by the map?

A. Very closely; that is, we have this tilted shore line and  
517 the tilted shore line of the Nippesing stage, and we find along the north coast of Lake Superior, east of Grand Marais and at Grand Marais, or thereabouts, it goes under. Now, assuming it kept tilting at the same rate that the visible tilt is, it should be about 25 feet below the present lake level of Duluth; and when we get well records at Duluth, as I did when I was working on this in 1907, we find a layer of gravel underneath the harbor about 25 feet below the waters' surface; so that looks as if that identified the shore line of Lake Nippesing, about 25 feet below this.

Q. You don't mean Lake Nippesing; you mean Lake Superior at the time of the Nippesing stage?

A. Yes; I mean Lake Superior at the time of the Nippesing stage.

Q. Now there are places in what you call upper St. Louis Bay there deeper than that, aren't there; soundings show considerable more depth of water?

A. Yes, sir.

Q. Now wouldn't this indicate where that original St. Louis River ran?

A. I think they do.

Q. Do you know where Pokegama River rises?

A. In a general way.

Q. About where?

A. Why, in a southerly direction I guess 25 miles from here.

Q. Isn't it 60 miles?

A. I don't know, sir.

Q. Isn't it near where Moose Lake, Minnesota, is?

A. I can't answer that.

Q. Where is the mouth of Pokegama River?

A. I should say it was where Pokegama Bay joins the larger tributary.

518 Q. It isn't a rule necessarily that the mouth of a river is where it joins a larger stream, is it?

A. I think it is.

Q. Is the Missouri popularly known as having a mouth?

A. Yes, sir.

Q. At the Gulf of Mexico?

A. No.

Q. It joins a smaller stream?

A. It has a mouth where it joins the Mississippi.

Q. The Mississippi is a smaller stream?

A. It's a shorter stream.

Q. And less volume, isn't there, the average of the year?

A. I am not sure about that.

Q. The Pokegama River runs down the Superior Entry—the water of it?

A. The water from the Pokegama River does, but I wouldn't think of calling that Pokegama River.

Q. Well, isn't it a fair proposition that so far as the blue water of Lake Superior sets back, that so far you are not entitled to call it a river?

A. No, sir.

Q. Isn't one of the tests of the river recognized among scientists that it must be a body of water running only in one direction?

A. Not without exception, sir.

Q. The ordinary definition?

A. The Hudson River rises at Troy, 450 miles from the ocean. We call it the Hudson River clear down to New York.

Q. You don't call it clear through Hudson River to the ocean?

A. Clear to the ocean.

Q. There is the North River, isn't there, and then isn't there the Narrows, and then isn't there a bay besides?

A. Yes; but I should say that those were supplementary names applied to the lower part of the Hudson River.

Q. Why wouldn't any stream that comes in and runs continuously to the ocean without joining any very materially larger body of water be considered a stream to that point, at least to a fractional extent?

A. I think it would be called by the name of the larger stream, down to its mouth.

Q. There is a Little Pokegama River, isn't there?

A. I believe so.

Q. And that also runs out through Superior Entry?

A. I wouldn't say that the Little Pokegama River does. I wouldn't say that its water goes out in the St. Louis River.

Q. Well, as a matter of fact, isn't there more water in a year runs in through the distance between Connors Point and Rice's Point than there runs from the St. Louis River by Fond du Lac?

A. I think a little more.

Q. Isn't it also the fact that when that runs through there it runs through with a greater speed than is ordinarily attained by the river coming down by reason of the winds and to some extent, not so much, tides that you speak of?

A. I think so, at times.

Q. Have you noticed the Meade map?

A. Yes, sir.

Q. You find some small spots in St. Louis Bay that are deeper than any land around there, don't you?

A. Yes, sir.

Q. How do you explain those?

A. Those are parts of the drowned channel of the St. Louis River.

520 Attorney-General Owen:

Q. In other words, those were holes that were in the land before the river was submerged, and they are still there?

A. Those were holes in the bottom of the river channel.

By Mr. Fryberger:

Q. Now, Mr. Martin, did I understand you to state that the St. Louis River had nothing to do with the forming of the bars, Rice's Point and Connors Point, and also Minnesota Point?

A. Had nothing to do with supplying material to form the bars. It may in a very trifling way have modified the bars at the entry.

Q. Just a trifle?

A. Yes, sir.

Q. Well, don't you think it was the action of the waters coming down the current of the St. Louis River meeting the waves of the lake that caused these bars?

A. No, sir.

Q. One neutralizing the effect of the other?

A. No, sir.

Q. Absolutely nothing of that kind?

A. No, sir.

Q. Did you ever hear that theory advanced?

A. Yes; I have read it in the testimony in this case.

Q. That is the only time?

A. Yes, sir.

Q. Now which was formed first, Grassy Point or Connors Point?

A. Grassy Point.

Q. Then next came Connors Point and Rice's Point?

A. Yes, sir.

Q. And then last of all came Minnesota Point and Wisconsin Point?

A. Yes, sir.

521 Q. Do you know whether or not there is another bar forming at the present time beyond Minnesota Point?

A. There doesn't seem to be any very definite suggestion of it on the Lake Survey chart.

Q. You wouldn't expect that to show in 25 or 30 years in a very pronounced manner, would you?

A. No, but I wouldn't think of suggesting that one was forming unless I could see some positive evidence of it on the map or by going and looking at the lake.

Q. Now, Mr. Martin, these bars were formed in your opinion solely by the action of the waves?

A. And the along-shore current.

Q. Don't you know that along every river, practically every river along the lake bars form at the mouth of every river, along Lake Superior?

A. Yes, sir.

Q. Why is it these bars form in front of these rivers?

A. Because the river has been drowned, made into an estuary, and that is the kind of place where waves and the along-shore currents can make a sand-bar.

Q. Why don't they make a sand-bar right out here ten miles up the North Shore?

A. Because the rivers on the North Shore were not drowned. The stream at Lester Park, for instance, comes down a steep slope directly into the lake and there isn't the kind of situation where a sand-bar can be built.

Q. Lester River comes down from a ravine practically the same as the St. Louis River, doesn't it?

A. Yes, sir.

Q. Why do you say one is drowned any more than the other?

522 A. Because the Lester River keeps coming down until practically the minute it gets into the lake, and the St. Louis River does that as far as Fond du Lac, and then has this additional length which is of a different character.

Q. Well, if the lake formerly extended up to Fond du Lac, up to the rapids, then the St. Louis River came in to the lake in exactly the same way as the Lester River comes into the lake?

A. That would be true if the lake ever extended up there.

Q. I am asking you now to assume.

A. Yes.

Q. So if the lake did extend up to Fond du Lac, where Fond du Lac now is, the St. Louis River came into the lake the same way that these North Shore Rivers do now; isn't that true?

A. Yes, sir.

Q. This Lester River is a very small river, is it not?

A. Yes, sir.

Q. In comparison in volume with the St. Louis River?

A. I think it is very much smaller.

Q. A mere creek, as a matter of fact, isn't it?

A. Yes, sir.

Q. Goes nearly dry in the summertime, and yet isn't it a fact that a bar forms in front of that little stream?

A. Yes, there is a little bar there.

Q. Now, did you ever testify as an expert before, on geological questions?

A. No, sir.

Q. Never were called before?

A. No, sir. Before my scientific associates, but not into court.

Q. Are these matters that you were telling us about here today matters of fact or are they matters of your opinion.

A. They are matters of common agreement among men in my profession.

523 Q. Do you think that these matters that you have testified to here today are so well settled among geologists and geographers that you have spoken of that there will be no reputable men to dispute you on your opinion?

A. No, sir.

Q. There will be no dispute?

A. Yes, sir.

Q. That is, you claim that is so well settled, the things you have said here about this lake, about these periods of time and of formation of these bars, are so well settled that no reputable geologist will dispute you; is that your position?

A. Yes, sir, absolutely, subject to little qualifications that I have made about approximate periods of time.

Q. Do you mean to say that it is so well settled among geologists that the lake never extended as far as Fond du Lac at a former time that we can't get an expert to testify to that fact?

A. Yes, sir.

Q. Can't find one?

A. Yes, sir.

Q. Now you never made one of these surveys from which these maps were made?

A. No, sir.

Q. You took other men's words for it?

A. Yes, sir.

Q. How deep do you say Lake Superior was here at the time it was the deepest?

A. Between 4 and 500 feet.

Q. That is at Duluth and Superior?

A. Yes, sir.

Q. Do you mean 500 feet on top of the surface of the ground where we are now?

A. Yes, sir.

Q. Then where would the St. Louis River come into the lake under those conditions?

A. Away back miles above Fond du Lac.

Q. How far above Fond du Lac?

A. Probably ten miles anyway.

524 Q. Now you are just guessing, aren't you, on that?

A. I am estimating.

Q. Just guessing; you have no way of estimating that?

A. I could take the elevations, of course, and put my finger in the exact place.

Q. How long did the river enter into the lake at that point, ten miles above Fond du Lac, for how many thousands of centuries, in your opinion?

A. I would rather not state that in years.

Q. I don't care for a few cycles.

A. It was for a small part of the closed stage of the glacial period.

Q. Just give us your estimate now of what this period was. We are trying to get some facts here.

A. The period it went in there?

Q. Where it emptied into the lake ten miles above Fond du Lac?

A. Several thousand years.

Q. When did it cease flowing into the lake at that point; when was it extended further down?

A. When it flowed in there the waters from the lake drained through the divide between the Brule River and St. Croix into the Mississippi, and the water level fell when the glacier retreated around Kenewa Point somewhere, so that the waters could drain down to Chicago and down the Mississippi that way.

Q. Read the question, Mr. Reporter. Question read by the Reporter as follows: "When did it cease flowing into the lake at that point; when was it extended further down?"

Q. Answer the question. I ask you when?

525 A. When the level of the lake fell.

Q. When did the level of the lake fall?

A. A good many thousand years ago.

Q. You can't tell when?

A. No, sir.

Q. Can't you give us an estimate?

A. 30 or 40,000.

Q. As a matter of fact, this whole theory is a vast speculation, isn't it?

A. No, sir.

Q. It isn't?

A. It is based on as exact computations as we can make.

Q. Yes, as exact computations as you can make; but what is considered an accepted theory one decade is completely changed in another, isn't it?

A. No, sir.

Q. There is a great change going on all the time, isn't there, in the study of geology, making advances, getting new theories all the while?

A. I think we are making progress, but I don't think we are overturning a great many theories.

Q. Don't think you are?

A. No, sir.

Q. You seem to think the testimony of Mr. Leonidas Merritt about the formation of these iron ore bodies was ridiculous?

A. I wouldn't want to say that about a nice old gentleman like Mr. Merritt. I don't think they are true, but I wouldn't say they were ridiculous.

Q. They didn't impress you at all, did they?

A. No, sir.

Q. As a matter of fact, you don't claim that you geologists can examine the ground, the formation and surface of the ground, and find where merchantable iron ore is deposited, do you?

526

A. Yes, sir.

Q. Why was it that that wasn't found, the Missabe Range



of ore deposits wasn't located by you geologists instead of these lumber jacks like Mr. Merritt?

A. It is done by geologists, prospectors and by geologists.

Q. Do you know of any iron ranges up in this locality of Minnesota, Michigan and Wisconsin that were located by a geologist instead of one of these explorers, just one?

A. Yes, sir.

Q. What one?

A. Penokee and Gogebic Range.

Q. Who located that, what geologist?

A. It was located very accurately by R. D. Irving.

Q. Was he the first man that found iron there?

A. I don't think he was the first man that found iron, but he went over the ground and outlined the position of the ore body.

Q. Do you know Mr. Winchell?

A. Which one?

Q. The one that is connected with the University of Minnesota?

A. N. H. Winchell, yes, sir.

Q. There were two Winchells, were there, father and son?

A. There were two Winchells that were brothers and then N. H. Winchell has two sons that were geologists.

Q. Do you remember the Winchell that had to do with the Missabe Range?

A. That was N. H. Winchell; he was State Geologist of Minnesota.

Q. He was a man of good reputation?

A. Yes, sir.

Q. A well-known recognized authority on geology?

A. Yes, sir.

Q. Instructor and professor in the University of Minnesota?

A. Yes, sir.

527 Q. Don't you know that he published a work after he examined the Missabe Range that iron ore couldn't exist on that range in merchantable quantities on account of the formation, and condemned it completely?

A. No, sir.

Q. Never heard of it?

A. No, sir.

Q. It's a surprise to you; you never heard that?

A. No, sir.

Q. How long have you been a geologist in this country?

A. Taught geology eleven years.

Q. How long have you been studying it?

A. Oh, about 20 years.

Q. Have you ever studied the Missabe Range at all?

A. I visited the Missabe Range, but of course my own special branch of geology, as I told you, is not iron ore, so I haven't studied it as Leith and Winchell and the other geologists studied it.

Q. But you want to say that you never even heard that Mr. Winchell made that report and made that statement and he had to admit it was wrong, years afterwards?

A. Yes, sir.

Q. Never heard of it?

A. No, sir.

Q. You are well acquainted with the geologists of this locality?

A. Yes, sir.

Q. You have seen Winchell's report?

A. Yes, sir. He published 24 annual volumes—7 big folio volumes, and I certainly didn't read every word he wrote.

Q. I asked you if you ever saw that report?

A. No, sir.

Q. Never heard of it?

A. No, sir.

Q. Now you know what we are trying here, do you, Mr. Martin?

A. Yes, sir.

Q. What is it?

A. Trying to locate the boundary between Wisconsin and  
528 Minnesota.

Q. Now in any investigations that you have made you never located that boundary in any way, have you—that boundary line?

A. Why, I haven't marked it. I have made up my mind where it seems to me it justly belongs.

Q. I say, you never found it, you never found any evidence of the boundary line yourself?

A. You find it on the charts.

Q. Oh, yes, these charts that are in evidence, things of that kind. Did you make any surveys of any kind with reference to this boundary?

A. No, sir.

Q. You know nothing about that?

A. No.

Q. Know nothing about the surveys that were made except as you see them on the charts?

A. Just on maps and charts.

Q. Now this official publication that you speak of, to what extent is that an official publication of the United States Government; that is, this Geological Survey?

A. It is published by the Bureau in the Department of the Interior and printed by the Government Printing Office.

Q. Well, but it is made up by men like yourself, that they hire you out and get this data; isn't that true?

A. Yes, sir.

Q. And you get your data not from actual surveys but from other maps that you find; isn't that true?

A. No, sir. I get some things from maps and I get many other things from investigations on the ground.

Q. I understand, but you didn't get all your report there from investigation?

A. No, sir.

29 Q. And isn't it a fact that in compiling this report that these men that write these articles, men like yourself, get information from any source that they deem reliable?

A. From reliable sources.

Q. Well, that they deem reliable. Sometimes they are mistaken, aren't they?

A. Yes.

Q. Yes, sometimes their information isn't correct; isn't that true?

A. Yes, sir.

Q. So it is compiled by men that are using their judgment as to where they get their information, as to what information they shall use; isn't that so?

A. It seems to me it describes all sorts of work.

Q. That's true, isn't it?

A. Yes, sir.

Q. When was Wisconsin admitted to the Union?

A. Between 1840 and 1850.

Q. We are not talking now of cycles of geology. What was the year. We allowed you latitude of three or four million years on that. We can't allow you that.

A. I think it was about 1846 or 1848.

Q. It was 1848, wasn't it?

A. I don't know.

Q. You don't know as to where that river was at that time in 1848 of your own knowledge?

A. Yes, sir.

Q. You do?

A. Yes, sir.

Q. Do you know where the channels were?

A. Not every channel, no, sir.

Q. You got your information as to where those channels were after you saw Meade's chart; isn't that true?

A. Yes, sir.

530 Q. And the rest of the charts?

A. Yes, sir.

Q. What you know about it is what you have learned from these charts?

A. And from the river.

Q. You never made any soundings?

A. No, sir.

Q. Now you speak of this St. Louis Bay and Superior Bay being an estuary. What do you mean by that?

A. An estuary is a drowned river valley, very often it is a small river drowned and made navigable.

Q. Do you mean to say that in order that there be an estuary that there must be a drowned river?

A. Yes, sir.

Q. And how much of the river is drowned?

A. A part that is drowned is called the estuary.

Q. Just the part that is drowned is called the estuary?

A. Yes, sir.

Q. Is there any difference between an arm of the sea and an estuary?

A. Yes, sir.

Q. What is the difference?

A. There are many kinds of arms of the sea.

Q. Let's have some of them?

A. Well, there's a fjord.

Q. That's a Norwegian term?

A. Yes.

Q. I don't care about the different names in different languages. I want plain English here?

A. Well, there is a strait, an arm of the sea.

Q. A strait connects two larger bodies of water, does it not?

A. Yes, sir.

Q. What do you understand to be an arm of the sea; you say there are many different kinds?

A. Some of the indentations where the sea penetrates the land are called arms of the sea.

Q. Don't estuaries answer the same definition?

A. Yes; but the two terms aren't equal. The Mediterranean Sea is an arm of the sea but it isn't an estuary.

Q. Nobody ever calls that an arm of the sea, do they?

A. Yes, sir.

Q. It is in common parlance called an arm of the sea?

A. Yes, sea.

Q. It is called Mediterranean Sea, isn't it?

A. Yes, sir.

Q. Always called the Mediterranean Sea?

A. Yes.

Q. As I understood you to say, the shores of this bay, St. Louis Bay, indicated to you that what we call St. Louis Bay is a river. I wish you would just state why the shores of this bay indicate to you that this bay is a river, all along the bay, what we call the St. Louis Bay. I will say do you know what we mean by upper St. Louis Bay and lower St. Louis Bay?

A. I think you divide them by Grassy Point, do you not?

Q. Yes. Now we will take above Grassy Point, and you define to us these shores and why these shores indicate to you that that body of water is a river above Grassy Point?

A. In the first place, you have the plan of the water body, the water here, that is to say, the main bay and its tributaries, and that plan has exactly the shape that you would get if you, for instance, drew a river and some branches in some clay and then poured in water; the water would back up into the branches and make a branching estuary just the shape of this one. Then there are curves there. For instance, you have in mind that great curve around Spirit Lake,—curves of that kind are made in only one way in Nature, in such materials, namely by the river cutting against its banks, swinging in a great meander, and the St. Louis River could not have cut the thing in its present form when it was drowned such as it is now.

Q. That is your reason?

A. Yes, sir.

Q. Have you given all the reasons that you can think of?

A. The chief ones.

Q. Did you ever go up the St. Louis River beyond the rapids above the Indian Village above Fond du Lac? Did you ever ascend the river?

A. Only for perhaps a mile.

Q. The river banks of St. Louis River are very well defined as river banks all the way up, are they not?

A. Yes, sir.

Q. Just ordinary river banks. How wide?

A. A little wider than the stream.

Q. How wide is the stream?

A. Thirty feet, perhaps.

Q. It's a good deal wider than that, isn't it?

A. Above Fond du Lac?

Q. Yes, for miles and miles?

A. I haven't been up in that part of the river for ten years, sir.

Q. So you don't know. Now, as a matter of fact, upper St. Louis Bay has a very indented shore?

A. Yes, sir.

Q. And has all the characteristics of the shore of a lake? Isn't that true?

A. No, sir.

Q. Is there any difference between the shores of St. Louis Bay and the south shore of Lake Superior?

533

A. Yes, sir.

Q. What difference just so far as indentations are concerned and the height of the shore.

A. Why, on the south shore of Lake Superior and the shore of any lake you have an exceedingly irregular outline that is determined by whatever was there before the lake came there, not by a regular stream cutting.

Q. Have you finished.

A. I was going to add one more sentence.

Q. All right.

A. Here you have the systematic outline that was caused by the drowning of the estuaries of the St. Louis.

Q. Now take upper St. Louis Bay. Hasn't it, as a matter of fact, more irregular and greater indentations on the shores of that bay on both sides than there is for a hundred miles down the south shore of Lake Superior?

A. Yes, sir.

Q. Then do you want to say now that the greater the indentations the greater the evidence of the river?

A. No, sir; depends on the ground.

Q. I understood you to say the greater the indentations the greater the evidences of a lake, is that true?

A. No, sir.

Q. Didn't you say that?

A. I didn't mean to say that.

Q. You said that the greater the indentations of the shore the more evidences of the lake; isn't that true?

A. I didn't mean to say that. I don't think I did.

Q. Well, as I understand it, the greater the indentation of the shore the more evidence there is that there is a river?

A. I think that is too broad a generalization to try to make. It has got to be a special sort of indentation before we say that  
534 is evidence of a drowned river.

Q. A special sort?

A. Yes, sir.

Q. What do you mean by that, a special sort?

A. I mean such a form as we have along the shores of this bay where it is evident that you get this kind of indentation by drowning the tributaries of this river.

Q. You will admit that ordinarily where there is great indentations of shore line that isn't evidence of a river?

A. I wouldn't want to say that.

Q. Nor you wouldn't want to say the reverse, would you?

A. No, sir.

Q. You want to remain neutral on that?

A. I want to answer specific questions and not just generalizations. Would you allow me to make a suggestion?

Q. I will after I get through. Your counsel will ask you. You spoke about this drowned river and the upper and lower St. Louis Bay, looked to you like a drowned river,—you take the mouth of the Mississippi River, you have been down there, haven't you?

A. Yes, sir.

Q. There is no such drowned river down there running into the Gulf of Mexico, is there?

A. No, sir.

Q. Just a delta, several channels leading out into the gulf, and there we have the current of the river and the action of the waves in that Gulf of Mexico; we have no such bay as we have here at the head of the lakes, have we? How is that?

A. No, sir.

Q. You take where the Missouri River puts into the Mississippi, you have seen that, haven't you?  
535

A. No, I have never seen that.

Q. You know that that flows right out down the Mississippi and they flow side by side, two currents, the one muddy and one comparatively clear for miles and miles?

A. I have been told that.

Q. No such thing as that here?

A. No, sir.

Q. As a matter of fact, haven't we here in St. Louis Bay and Superior Bay the ordinary case of an estuary or arm of the sea that we have along any number of lakes in the United States and any number of places along the shore of the ocean; isn't that about all there is to it?

A. I don't think we have.

Q. There are a great many places along the shore that look very much the same as this, isn't that true?

A. Yes, sir.

Q. Where the ocean seems to extend up into the land, and that is an arm of the sea and the river will put into the head of it?

A. Those are places where rivers have been drowned.

Q. You will concede this, won't you, that that river was drowned, if it was drowned at all, long before 1848, when Wisconsin was admitted into the Union?

A. Yes, sir.

By Mr. Bailey:

Q. Mr. Martin, the height of the land over which the river flows is very much greater up at Cloquet than it is down at Fond du Lac?

A. Yes, sir.

Q. Now, just suppose that the St. Louis River was diverted, we will say at Cloquet, and taken off, just suppose a case, down into the Mississippi, all the water taken off down there; the height of the waters in the Bay of St. Louis would still remain just approximately the same as they are now, wouldn't they?

A. Approximately, yes, sir.

Q. Precisely the same height clear up to the head of Big Island and above Big Island, same amount of water up there, be just the same amount of water there as there is now?

A. Not quite.

Q. Well, approximately?

A. Yes, sir.

Q. Did I understand you that in your opinion Minnesota Point and Wisconsin Point and Rice's Point and Connors Point were formed in the lake; did I understand that?

A. Yes, sir.

Q. And that you find a channel going out between the first pair and the second pair of points?

A. Yes, sir.

Q. Now, how far out does that channel extend into the lake?

A. Why, practically just beyond the end of the breakwater.

Q. Beyond the end of the breakwater?

A. Yes, sir.

Q. And I suppose you, in speaking of this drowned river, you think that if the waters of Lake Superior, for instance, could, from some cause which we cannot conceive now, be lowered suddenly fifty feet and the waters of the St. Louis River should still continue to flow, they would follow that channel out, wouldn't they, and they would be confined in very narrow banks?

A. Yes, sir.

Q. And much lower down than they are now?

A. Yes, sir.

Q. Probably several feet lower than the level of the bay as it is now?

A. Yes, sir.

Q. So that all of the water which is above the place which the waters of the St. Louis would then occupy, would be waters of the lake, wouldn't it, all that water?



537 A. No, I wouldn't say that the water that now flows out——

Q. I am not talking about the water that flows out. I mean the height of the water, all that is above the top of the stream, if the lake were reduced fifty feet, all of that is in fact water of the lake?

A. No, not the part that's flowing out.

Q. No, not the part that is coming down the river but all that is above the water of the river?

A. With the exception of that——

Q. Are really waters of the lake?

A. Yes.

Q. As a matter of fact, most lakes, you might class them as drowned rivers if you wanted to?

A. No. There are many lakes that aren't that kind.

Q. Take a lake that has an inflow and an outflow, as most lakes do; that's true, isn't it, that they have an inflow and an outflow, inlet and outlet?

A. Yes, sir.

Q. Water flows in one end and out the other?

A. Yes, but——

Q. And it is just a matter of classification amongst you geologists as to whether you classify them as drowned rivers or lakes?

A. We make our classification on the basis of reason as to whether there is a current that goes through all this.

Q. There are currents in Lake Superior, aren't there?

A. Yes, sir.

Q. And you classify that as a lake?

A. Yes, sir.

Q. And there is a current in the St. Louis River?

A. Yes, sir.

Q. And you classify that as a river?

538 A. Yes, sir. There are different kinds of currents in the two waters. Currents in Lake Superior eddy round and round; currents in St. Louis Bay flow straight through.

Q. Take it in what we call the Superior entry, there is a current right outside of that for miles distant, isn't there?

A. Yes, sir.

Q. And yet you call it the lake unquestionably as soon as you get beyond, I mean easterly, of the Superior entry?

A. Yes, sir.

Q. And that is the same current that you found in the bay?

A. Yes, sir.

Q. So that isn't quite a basis upon which you can classify exactly, is it?

A. No.

Q. You have given your opinion as to how Wisconsin and Minnesota Point and Connors Point and Rice's Point were formed, and you think they were formed in the same way?

A. Yes, sir.

Q. And you are inclined to think that Grassy Point may have been formed somewhat differently?

A. A little more complicated.

Q. But I take it that you think that Wisconsin and Minnesota Point and Rice's Point and Connors Point were formed in the lake?

Q. Why, Rice's and Connor's Points were formed at the end of the lake.

Q. Well, in the lake?

A. At its shore, yes.

Q. And likewise—

A. And these points built out into the lake there.

Q. And likewise Wisconsin and Minnesota Point?

A. Yes, sir.

Q. Formed at the end of the lake?

A. Yes, sir.

Q. And you say that the Grassy Point, formation of that, is somewhat complicated?

A. Yes, sir.

539 Q. And you wouldn't undertake to say very definitely as to that?

A. I meant to make a fairly specific statement about it in the earlier part of my testimony.

Q. But you found the very same material there as you found on the other points?

A. No; found very different material along there.

Q. It has been formed longer?

A. It is a different kind of material.

Q. It has been formed longer?

A. Very likely.

Q. Just as Connors Point and Rice's Point were formed earlier than Wisconsin and Minnesota Points?

A. Yes, sir.

Q. Referring to this page 457 of this monograph that you have introduced a map from and which you say you wrote, I find this statement: "Between the head-lands beaches have been formed and these beaches are of the usual sand and gravel and boulder type associated with spots, hooks, bars, and sand dunes. In places where such beaches have been built across the mouths of valleys or bays and separated them from the lake, ponds have been held in as on the south shore of Lake Superior or the east shore of Lake Michigan near Grand Traverse Bay, where some very large ponds of this sort are found. Elevated examples of these ponds were observed by C. R. Van Hise and J. M. Clements in 1901 on the north shore of Lake Superior along the Black Bay coast, forming a peculiar type of lake associated with the raised beaches." These beaches that you were

540 talking about here are formed much in the same way as Wisconsin and Minnesota Points and Connors and Rice's Points aren't they?

A. Except that the stream in the case of those little ones was not able to keep the channel through the broad bar.

Q. What you are talking about here are lakes that were formed

that didn't have an inlet and an outlet sufficient to keep the channel through, that is the only difference?

A. Yes, sir.

Q. And going on reading: "In the Michipicoten District a bar of this kind was thrown across the bay now occupied by Wawa Lake at the time of one of the highest lake stages as described by A. P. Coleman." That lake formed in the same way,—same kind of a bar?

A. Yes, sir.

Q. So that you take these, what we are speaking of as bays here, if there wasn't any St. Louis River there would be a lake there just the same as these lakes you speak of?

A. Yes, sir.

Q. And the only reason that you suggest for now calling that body of water a river instead of a lake is because there is an inlet and an outlet.

A. Yes, sir.

By Mr. Fryberger:

Q. You are familiar with Narraganset Bay?

A. Yes, sir.

Q. And the river that puts into the bay?

A. I don't know the name of the river.

Q. Providence River, isn't it?

A. It is the river at Providence.

Q. Now, that is a case of a drowned river, Narraganset Bay, isn't it?

A. Yes, sir.

Q. Did you ever hear of anybody calling the mouth of Providence River out where Narraganset Bay joins the ocean—never in your life, did you?

A. There is no current out that far.

Q. Just answer my question?

A. No, sir.

Q. The mouth of Providence River is where it strikes the first point of Narraganset Bay, isn't it?

A. Yes, sir.

Q. Isn't that bay a case of the drowned river?

A. (No answer).

By Mr. Hanitch:

Q. If I understand your theory, you think that some 80,000 years ago the lake was about four or five hundred feet higher than it is now?

A. Yes, sir.

Q. And that the St. Louis came into the lake about ten miles above the village of Fond du Lac?

A. Yes, sir.

Q. And then the ice moved so that there was an opportunity for

the waters to flow out and the waters of the lake receded, and receded until finally this land that is now covered by St. Louis Bay and Superior Bay became dry land, and the St. Louis River meandered through that dry land into the lake?

A. Yes, sir.

Q. And that was perhaps 30,000 years ago, and then the land tilted down the Soo and brought the waters of the lake back over this dry land up as far as perhaps the falls above Fond du Lac; is that right?

A. Yes, sir.

Q. And about what depth of the lake water was there then over this dry land where the St. Louis and Superior Bay is?

A. It gradually increased until it is what it is now.

Q. You don't think it is more than what it is now, at some time?

A. No, not essentially.

542 Q. I thought I understood you to say that the gravel deposit indicated where the lake bottom was when it came back?

A. Yes; I said that the gravel deposit——

Q. Now assuming——

Attorney-General Owen:

Q. Did you give all the answer you wanted to there?

A. I could add to it. The gravel deposit that we have there is the tilted shore line of this Nippising stage that goes down under the water at Grand Marais.

Q. But the same deposit reaches up here, does it not?

A. I think that's a different gravel. There are a great many other gravels underneath this.

Q. Assuming that on Minnesota Point that gravel deposit appears to be forty feet under the present sand over there, would you say that that indicated where the bottom of the lake was when the tilting of the land brought the waters back?

A. No, I don't think—I think that's true. There's a great series of gravels and clays, gravels and clays that go down underneath the earth for several hundred feet.

Q. When the waters of the lake were brought back across this great flat which is now covered by the St. Louis and Superior Bay, how deep would you say the lake was across these flats, deeper than it is now?

A. I am not sure that I understand your question. Would you mind stating it again.

Q. As I understood you, the water receded until the lands which are now covered by the Superior and St. Louis Bay came out

543 and were dry land?

A. Yes, sir.

Q. And then the St. Louis River meandered down through that flat into Lake Superior?

A. Yes, sir.

Q. Now about 30,000 years ago your judgment is that land

began to tilt at the northeastern end of Lake Superior and brought the waters back so they again flooded this flat, is that right?

A. Yes, sir.

Q. Now, of course, the waters were brought back gradually. How much of depth do you think the lake had across these flats when it came back?

A. Why, it probably didn't have more than 25 feet.

Q. At that time it was simply then a wide expanse of water of a depth of about 25 feet with the St. Louis River defined concisely in its channel, the banks at about what we call the village of Fond du Lac or a little above Fond du Lac?

A. It was essentially as it is now.

Q. No, because you testified that these points were all made after the waters came back?

A. Below, yes, above here it was essentially——

Q. That is, the river appears as it appears now above the village of Fond du Lac and the rest of it was a mere expanse of water about 30,000 years ago?

A. Now, as soon as the land began to tilt the waters began to back up, and first they widened the river a little bit, and kept widening it more and more until it was essentially as it is now except that the outer points were not yet built.

Q. What do you call the outer points?

A. Rice's Point, Connors Point, Minnesota and Wisconsin Points.

Q. What about Grassy Point?

A. Grassy Point seems to me to be a spur on the side of this drowned estuary.

Q. The waters of the lake did, as I understand you, about 30,000 years ago, come back and fill this flat?

A. They didn't fill it as much as it is now.

Q. They filled it as much as it is now and also filled that part that is covered by these points of land that you speak of?

A. Yes, sir.

Q. It was after this water came back that these points of land began to form?

A. Yes, sir.

Q. So that the only difference between this flat now and 80,000 years ago is that 80,000 years ago there was 400 feet of lake water on this flat and today there is about 25 feet of water, with some points in it now that weren't there before, is that right?

A. There seems to me a vast difference——

Q. It is just the difference in depth of water, is it not?

A. That is the only difference.

Q. It is lake water just as it was 80,000 years ago?

A. No, sir, I wouldn't say it was lake water.

Q. It is the water that was pushed back out of Lake Superior over these lands, the same water that receded out of Lake Superior and made it dry, is it not?

A. No, sir. It is the water that flows down from the St. Louis River that is unable to get out into the lake as fast as it would like

to because the lake waters are tipped up here, and it is river water that is out in this estuary.

545 Q. River water out in the lake too, is it not?

A. Yes, sir.

Q. Very often there is lake water in on these flats, perfectly blue clear water, is there not?

A. There is lake water a little bit coming in here but——

Q. Now, as I understand you, these pits that we see in various parts, that we see by the chart and the soundings in various parts of this great flat are old pits that were dug out by the St. Louis River some time between 80 and 30,000 years ago; is that right?

A. Yes, sir.

Q. And since the water has come back by the tilting there has been no digging by the river, has there?

A. No. There has been some digging since.

Q. Don't you think there has been filling and not digging?

A. I know there has been some digging.

Q. How would you account for these low spots and these pits, if there hadn't been filling and not digging?

A. Because the line of the low spot is largely the shape of the submerged channel in the estuary.

Q. That was dug out when the land was dry?

A. Not altogether.

Q. Do you think that if we have had 20 feet of water here there has been any current to dig this soil underneath?

A. Yes, sir. That is demonstrated on the Meade chart.

Q. Let me understand you. I thought you said that the deep holes that appear on the Meade chart were holes that were the channel of the river when the land was dry?

A. Yes, sir.

Q. Since the waters have come back and recovered this  
546 land with 20 or 25 feet of water do you mean to testify that there has been enough force in the current of the St. Louis River to dig down deeper than it dug when there was no water there at all?

A. It hasn't dug as fast, but it has kept on digging.

Q. You think it has kept on digging. In other words, you think there are places there that are deeper there today than there were 30,000 years ago when there was no water of the lake there at all; that is your judgment?

A. Yes, sir.

Redirect examination.

By Attorney-General Owen:

Q. A lake ordinarily has no channel running through it, has it?

A. No, sir.

Q. Neither does a bay?

A. Not ordinarily.

Q. Now, there is a channel running through the Bay of St. Louis and the Bay of Superior, is there not?

A. Yes, sir.

Q. And that channel, in your opinion, is the St. Louis River, or, rather, that channel was cut down through there by the St. Louis River?

A. Yes, sir.

Q. Now it is evident that some of that channel has been cut since the river was submerged, is it not?

A. Yes, sir.

Q. What part of it?

A. Certainly all of the part between Connors Point and the Superior entry.

Q. Now, why do you say that?

A. Because when the St. Louis River flowed out between Rice's and Connors Point and there was not yet any Minnesota Point, if there was any channel continued beyond that,—that of course is doubtful that there was any—it would have gone straight  
547 out. Now we find on the Meade chart that there is a line of greater depths, line of pits has been alluded to, I call it a channel, defined channel, that extends diagonally across from the International bridge to the Superior entry that must have been made after Minnesota and Wisconsin Points were made.

Q. How could it have been made?

A. It could only have been made by a flowing current across that lagoon between Rice's Point and Connors Point and Wisconsin and Minnesota Points.

Q. And that would be the only stream of the St. Louis River flowing down through this submerged water?

A. Yes, sir.

Q. The water that submerged the flats?

A. Yes, sir.

Q. Counsel on the other side industriously persisted in your comparing the mouth of this river with the mouth of the Mississippi River or the mouth of some other river that was not submerged. Now are there any other instances in this country, or any other country, for that matter, of submerged mouths of rivers?

A. Yes, a great many.

Q. Name some conspicuous examples?

A. There is the River Thames, a little stream submerged enough so it makes a great harbor. There is the Chesapeake Bay where we have the Susquehanna River and its tributaries, making a branching series of channel ways just like this bay, which indicates that there has been sinking of the land since the stream originally cut the main valleys and the side valleys. The drowned river, of course, is a rather common type.

Q. What about the Amazon?

548 A. The Amazon River drowned but not very deeply because the water doesn't back up its tributaries very much, but enough so that ocean steamers go up it a matter of a thousand miles or so,



Q. What is the difference between currents in a lake and currents in a river, Lake Superior for instance, currents we find in Lake Superior and currents we find in St. Louis River?

A. The currents in Lake Superior in general eddy around the whole lake, being rather more marked near the shore. That is because we have a current setting around the end of the bay counter-clockwise, that we have Minnesota Point long and Wisconsin Point short: in other words, if there wasn't any along-shore currents, the Superior entry would be north of where it is now quite a long distance. The current in the lake is also primarily a surface current. The current in the river generally flows along through the middle of the waterway and it may be a current that goes from the surface to the bottom, because a river has a shallower channel.

Q. I hand you a book and ask you if you know what that is?

A. That is a volume of the proceedings of the American Association of the Advancement of Science for 1869.

Q. Did you ever see that book before?

A. Yes. That is a book out of the University library at Madison.

Q. The historical library?

A. No; the University library.

Q. Have you read that book or portions of it?

A. I have read portions of it.

Q. Have you read any article in there or any portions of an article bearing upon the theory of the submergence of this  
549 end of the lake, the tipping of the earth in this locality?

A. Yes, sir; an article by Mr. Stuntz, who originally located this boundary line.

Q. Who originally surveyed this section of the country?

A. Yes, sir.

The Commissioner: George R. Stuntz.

The Witness: Yes, sir.

Q. Now, at what page does Mr. Stuntz refer to the submergence of this end of the lake?

A. Pages 206 and 207.

Q. I will ask you to read what he says on that subject at those places.

A. "But nowhere is this filling up more apparent than in the bay above the mouth of the St. Louis River. In several parts submerged stumps several feet below the present water level are found. And numerous valleys surrounding the main bay, when we consider the nature of the soil and the formation, a tough red clay, in all of which the water is deep, could not have been excavated in the natural course of events, with the water at its present level."

The Commissioner: Is it stipulated, gentlemen, that George R. Stuntz is dead?

Mr. Fryberger: Yes.

Attorney-General Owen: We will stipulate that he is dead. We will offer this as a scientific work, though, of which the courts will take judicial notice.

550 Rec'd Aug. 10, 1917. D. E. Roberts, Com'r.

FEDERAL BUILDING, SUPERIOR, WISCONSIN,  
WEDNESDAY, August 8, 1917, 10 a. m.

The taking of testimony was resumed before the Commissioner, Hon. David E. Roberts, at the above time and place.

Present: The Commissioner, Hon. David E. Roberts;

On behalf of the State of Minnesota, Hon. Lyndon A. Smith, Attorney-General of the State of Minnesota; Mr. W. D. Bailey, Mr. H. B. Fryberger, and Mr. Louis Hapitch.

On behalf of the State of Wisconsin, Hon. Walter A. Owen, Attorney-General of the State of Wisconsin, Mr. Horatio V. Gard, Mr. Lyman T. Powell, and Mr. T. T. Hudson.

The following testimony was introduced and the following proceedings were had, to-wit:

LAWRENCE MARTIN, a witness on behalf of the State of Wisconsin, was recalled and testified as follows:

Examined by Attorney-General Owen:

Q. Mr. Martin, the United States Geologic Survey is sort of a map-making department connected with the Federal government, is it not?

A. Yes, sir, it is the chief map-making department.

Q. What character or style of maps do they generally make?

A. Their maps are topographical and geographical maps rather than maps to show forests and other things, but they make really the mother maps of the United States. They leave to the  
551 Coast Survey and the Lake Survey the putting on of soundings and matters of that kind. They outline the shores very accurately. They show the features of culture, such as houses and railroads and boundaries; they always show the boundaries, the state and county and township boundaries, and so on.

Q. Do they show the boundaries with accuracy?

A. I think with the greatest accuracy.

Q. In other words, they exhaust all of the available information in order to make the map; is that what you mean to say?

A. Yes, sir. The man who does the field work has his work reviewed by officers in Washington; so that when you see a boundary on a map of the United States Geological Survey, just as when you see geographical names, you can be sure that it is the government's choice from all the available information they had.

Q. Why did you say 'just as geographical names'? Why did you use that as an illustration?

A. Because geographical names are reviewed in Washington before the map is actually printed.

Q. By whom?

A. By the United States Geographic Board, consisting of officials from the Geological Survey, from the War Department and the Navy Department, from the Land Office, and so on.

Q. Are these boundaries reviewed by the same board?

A. It is changed now, the name. It used to be the United States Board on Geographic names, and now it is called the United States Geographic Board, but whether they cover the boundaries  
552 or not I do not know.

Examined by Mr. Fryberger:

Q. Mr. Martin, I could not get a very good idea of your idea of a river. As I understood your testimony, you said the river had a channel and had banks; that is about what you said. I wish you would define what a river is, what you understand a river to mean.

A. A river is a body of moving water on the land; it usually has a distinct current and well-defined banks.

Q. Is that all?

A. Those are the essential characteristics.

Q. The current runs from the source to its mouth, doesn't it?

A. Yes.

Q. And when the current runs the other way, when a body of water runs both ways you cannot properly call such a body of water a river, can you, and you do not?

A. Geographers do in many cases.

Q. Take the Chesapeake Bay that you spoke of. What river flows into the Chesapeake Bay?

A. The Susquehanna River.

Q. How long is Chesapeake Bay?

A. Oh, it must be 150 miles.

Q. Now, you do not claim, do you, that the Susquehanna River, running that entire distance from the farthest point, northwestern point of Chesapeake Bay down to the ocean,—you do not call that the Susquehanna River, do you?

A. I should want to study the evidence as to currents and submerged channels before I answer that question.

Q. Well, do not people generally call that "bay"? Do they  
553 ever refer to the Chesapeake Bay as the Susquehanna River?

A. No, sir.

Q. Why, of course not. How wide is Chesapeake Bay?

A. 50 miles.

Q. Chesapeake Bay is another case of a submerged river, drowned river, isn't that true?

A. Yes, sir.

Q. Just the same as they have up here?

A. No, not just the same.

Q. One is in Minnesota and Wisconsin and the other down on the Atlantic coast; that is the only difference, is it not?

A. No, indeed. This one is submerged but not submerged so much as to obliterate the original channel. The Chesapeake Bay, I don't know whether the original channel is there or not. This one is submerged only enough so that the water backs up, but not enough to prevent a continuous current from going away out to the entrance

at Superior entry, while at Chesapeake Bay I suspect there is not any current that goes all the way out.

Q. You suspect?

A. Yes. I have never studied the current records and the chart of Chesapeake Bay.

Q. As long as there is a current they call it a river?

A. Yes.

Q. The current of the Mississippi River runs out into the Gulf of Mexico five or ten miles; you can go out on a boat and see it, isn't that true?

A. You can see different color.

Q. And there is a current; isn't that true?

A. Yes.

Q. Now, you do not call that "Mississippi River" out that  
554 five to ten miles beyond where it empties into the Gulf of Mexico, do you?

A. No, sir; it has no banks.

Q. Now, you spoke about the great authority of the maps made by the Geological Survey, that department of the United States government. You say that their maps are accurate, that they can be depended on?

A. Yes.

Q. And when they have a boundary question they have that accurately defined, so there is no question about the boundary; is that true?

A. I should take the boundary as it was drawn on the United States Geological Survey map. I should take the boundary as drawn on the United States Geological Survey map as the final authority unless there had been adjudication of that specifically afterwards.

Q. You understand, do you not, that the Supreme Court of the United States is the final authority on a disputed boundary? They do not get their authority from this survey made by the United States.

A. They get evidence, undoubtedly, from that and many other sources.

Q. Now, calling your attention to the definition of a river given by Major David C. Huston, of the United States Corps of Engineers, who had charge of the harbor improvements at Duluth from May, 1870, to 1873—and I am calling attention to the definition that he gave in a case that was pending in the United States court for the District of Wisconsin, in the case of The State of Wisconsin, Complainant, vs. The City of Duluth and The Northern Pacific Railroad Company, and see what criticism you have of that definition.

555 I read from page 436 of the record in that case, the deposition of David C. Huston, located at Milwaukee at the time the deposition was taken. This is the record of the testimony in that case. "A. A river properly is one where the current is always from its source towards its mouth." Now do you criticize that?

A. Yes, sir, because that excludes the Hudson River which has a tide going up.

Q. Well, we will come to his testimony on the Hudson River in a

few minutes. "Near the mouth where it empties into large bodies of water, such as the ocean or any large body where the surface rises and falls, the current is affected by this rise and fall of the larger body of water and the tides, so that we have the river proper where the current is always from the source down, and the tidal department where the direction of the current varies, and where the cross-section of the water is not due to the river proper." Do you criticize that?

A. That seems to me to be a fair general statement.

Q. Now, the level of this water in the upper St. Louis Bay is not due to the river at all, isn't that true, and didn't you so testify yesterday?

A. That does not seem to me, however, to exclude its being a drowned river.

Mr. Fryberger: Read the question, Mr. Reporter.

(The question was read by the reporter.)

A. No, the level is controlled by the level of the lake.

Q. Certainly. Then continuing this definition of Major Huston: "that is, due to the water which properly comes from the  
556 river. These bays into which rivers empty are not due, their physical formation is not, to the river; they are generally due to other causes." You agree with that, do you not?

A. Not entirely.

Q. Not entirely?

A. No.

Q. "The bay of Superior is a body of water, the level of which is affected by the level of Lake Superior; so I do not consider the mouth of the bay of Superior as the proper mouth of the St. Louis River in a scientific sense. I would place the mouth of the St. Louis River proper several miles above Rice's Point, because the current, the upstream current caused by the lake, extends several miles above that point at times, and the formation of the stream, its banks, is evidently due to the action of the lake in that portion." Now would you criticize that definition in any other way than in the manner you have specified?

A. Yes, I would add that he is entirely wrong in saying that the form is due to the action of the lake.

Q. That is, the indentations of these shores is due to the action of the lake?

A. Yes, sir.

Q. You think he is wrong there?

A. You remember I testified yesterday that the form was a specialized form which is due to the drowning of the stream at its tributaries.

Q. Now let me call your attention to what he said about the Hudson River, and see if you agree with that. This is on page 438. (Reading) "The Hudson River; in speaking of the mouth at this  
557 point I have referred to the discharge of the river, getting the amount of water the river discharged, the place I would gauge it; I would gauge the Hudson up there, and get the

discharge of the river at Troy, or above it; of course the river is designated as a river all the way to New York City, but it is an arm of the sea practically for a number of miles above New York, certainly sixty miles, properly an arm of the sea. The water is salt; tides are marked." That is all true, is it not?

A. Geographers would not agree with that at all.

Q. Would not agree with him at all?

A. Because it is usually agreed that an estuary, although connected with the sea, is part of the river, and that that is so demonstrated by the use of the name "Hudson River" for the part that is an estuary, which has brackish water, and a rise and fall of the tide.

Mr. Fryberger: I think that is all.

Examined by Attorney-General Owen:

Q. Now, Professor, you have heard what the Captain of Engineers said in his testimony, and you have been asked whether or not you agree with the specific statements. Consequently, you have not had any opportunity to state in a general way what your differences are. What is this captain's name?

Mr. Fryberger. Major Huston.

Q. Major Huston. Now I will ask you whether you want to state, more generally than you have been permitted to do, how your views differ from the views, as just read, of Major Huston.

558 A. I suspect that if I had time to analyze the statement of

Mr. Huston that there would be a number of points on which I would differ with him fundamentally. As to the broad generalization, he went entirely too far in some cases. It seemed to me that his testimony was colored by the issue at stake, and I am sure that Major Huston, who is an engineer officer, has not given as much attention to the study of rivers as he would want to give if he expected his definitions to be rigidly applied to all rivers in the world. Certainly, you could not literally apply his statements to all rivers. If you did, the name "river" would have to be removed from many bodies of water to which it is now applied by universal agreement.

Examined by Mr. Fryberger:

Q. There is one question that Mr. Bailey called my attention to that I omitted to ask you but that I intended to. Now after giving this definition as applied to the St. Louis River, the Major was asked this question: "What point would you fix as the mouth of the river?" (That is, referring to the St. Louis River.) And he answered: "In the neighborhood of 12 miles above Rice's Point. Not attempting to fix it definitely, I would fix it at that point where the current ceases to be affected by the oscillations of the lake." Now would you criticize his statement in fixing the mouth of the river at least twelve miles above Rice's Point?

A. I think his conclusion is absolutely indefensible.

Q. That is, you think he is absolutely wrong, in other words?

559 A. Yes, sir.

Q. Now, assuming it is true that he had entire charge of the improvements of the St. Louis River and bay, at the head of Lake Superior, for three years, do you mean to say or to infer that he was not familiar with the situation here?

A. I think he is familiar with the waters, but I cannot conceive of a man who is familiar with the habits of rivers placing the mouth of that river where he did.

Q. Notwithstanding the fact he had charge of it for three years and the improvement of it?

A. Yes, sir.

Q. You are familiar of course with the methods and the methods used by the government engineers in preserving all their records and handing them over to their successors in office?

A. Yes, sir.

Q. And that he had the benefit of all that had gone before him?

A. Yes, sir.

Q. In the improvement of these waters. And yet you reach an entirely different conclusion from what the major did?

A. Absolutely.

Mr. Fryberger: That will be all.

Examined by Mr. Bailey:

Q. Just one question. Isn't it undoubtedly true that these rivers, say, along the north shore, like the Lester River, Gooseberry River, Knife River, and some of those other rivers up there, had channels which flowed a good deal farther out than they do now, at a time twenty or thirty thousand years ago, when the waters were lower than they now are?

560 A. I doubt if there were any channels that went beyond the present shore line, except at the Nipissing stage of the Great Lakes, and then the shore line, which is just under water twenty feet or so, was a trifling distance off shore. There would not be an extension of 100 yards.

Q. Well, that would only be true in cases where the waters were very deep close to the shore at the present time?

A. That is true, however, most of the way from here to Port Arthur, that the water is pretty deep close to the shore.

Q. Take it on the south side; the shore does not drop off there so suddenly, on the south side?

A. No, sir.

Q. Take those waters that flow into the lake on the south side. Undoubtedly channels from those rivers extended a great deal farther when the water was lower than they do now; isn't that true?

A. At that one stage there were channels that extended out farther than the present.

Q. Now those are drowned rivers at the present time, aren't they?

A. Yes, sir.



Q. And yet you do not consider those rivers go any farther than the shore of the lake at the present time?

A. Because no current maintains itself out beyond the present shore.

Q. Well, there is always a current at the mouth of a river, isn't there, when it goes into a lake, some distance out?

A. Not for some distance out, because those rivers are so small.

Q. Then, it is just a matter of size, isn't it?

561 A. If this river was not so large it could not maintain a current out.

Q. Do you mean by that, that a big drowned river is still a river but a small drowned river is not a river?

A. That would be true in some cases.

By Mr. Fryberger:

Q. Just one other question. On page 417 of this record, I want to ask you with reference to Major Huston's opinion again. Or, preliminary to that, as I recall your testimony, Professor, you consider the bay of Superior and the bay of St. Louis, upper and lower, as a part of the St. Louis River?

A. Yes, sir.

Q. Now I want to call your attention to this question that was asked Major Huston, and his answer thereto. (Reading) "In your opinion and from your observation, state whether or not the bay of Superior is now, or ever has been, a portion of the St. Louis River. A. I do not consider it a part of the St. Louis River at all. It has never been, in my opinion." Now you differ from him entirely on that, do you?

A. I differ from him because he overlooks the submerged channel which shows definitely on the Meade chart, and he overlooks the out-going current which the records in his office, which you alluded to, show clearly to be maintained.

Examined by Mr. Bailey:

Q. You know, Professor, that from Rice's Point northward, before the canal was cut, there was not any current up there at all; was there?

A. Yes, sir.

Q. No channel?

A. Yes, sir.

562 Q. And yet you still maintain that that was part of the river?

A. The body of water from Rice's Point northward is a part of this same—

Q. Is part of the river, is what you mean?

A. Part of the river; yes, sir.

Q. You have got to say that in order to maintain your theory; I see no escape from it.

A. I would not say it unless I believed it to be true.

Examined by Attorney-General Owen:

Q. The counsel made you say that a small drowned river might not be a river, while a large drowned river was still a river; the inference he sought to draw being that whether it was a drowned river or not depended on its size. Now will you state what makes it a drowned river? What determines whether it is still a river after it has been drowned?

A. Well, a drowned river is a drowned river, regardless of size, but whether you can find evidence years after, thousands of years after it was drowned, depends on whether it happens to be a stream of the magnitude that maintains a channel and a current, or a little stream in which the evidence is obliterated.

Q. And whether it is pronounced a drowned river or not depends upon whether the current and the channel is discoverable at the time?

A. Yes, sir.

Q. And of course the size of the river determines to a large extent at least whether the channel cuts its way through the water by which it was drowned?

A. Yes, sir.

563 Q. Does the fact that the water in these bays comes in part from Lake Superior make any difference with this being a river?

A. No more than in the case of the brackish water in the Hudson River.

Q. The fact remains that the channel still maintains itself down through these waters to the entry—

A. Yes, sir.

Q. —or the outlet?

A. Yes, sir.

Q. Which we call the Superior entry. And that is why you say that it is a river?

A. Yes, sir.

(A map was marked Wisconsin Exhibit 4.)

Q. I show you Wisconsin Exhibit 4 and ask you what that is.

A. That is a copy of the Duluth sheet of the United States Geological Survey.

Q. What do you mean by "Duluth sheet"?

A. The United States Geological Survey publishes rectangular maps which are called "sheets" or "quadrangles." They are bounded by parallels and meridians.

The Commissioner: That is one of them, I suppose?

Witness: This is one of those quadrangles or sheets.

Q. Where did you get that?

A. I bought it in the City of Duluth.

Q. Is it a map in general use?

A. Yes, sir.

Q. And you can buy it at most any place?

A. The United States Geological Survey maintains a stock in a store in almost every important city in the United States.

Q. And you have seen a great many copies of that map?

564 A. Yes, sir.

Attorney-General Owen: I offer Wisconsin Exhibit 4 in evidence.  
The Commissioner: Received.

Q. There is not any attempt made, evidently, on the map to locate the boundary line between Minnesota and Wisconsin.

A. I think there is no boundary shown on this map because no part of the State of Wisconsin comes within the area of this map.

Q. That is the reason no attempt is made to fix the boundary?

A. Yes, sir.

Q. Because the territory represented on that map is all within the State of Minnesota?

A. Without doubt that was given careful attention. There are two things that always appear on these United States geological survey maps that indicate what state is covered. First, they always draw boundaries and mark boundary lines between Minnesota and Wisconsin, and the names of the counties usually; and, in the second place, they always print, in the corner of the map, the name of the sheet; and if the map covers parts of two states, they will write, instead of Minnesota, as on this sheet, Minnesota-Wisconsin.

By Mr. Bailey:

Q. Mr. Martin, I take it under your definition of a river, then, you would consider that there was not any lake Peppin, it was all Mississippi River, would you?

565 A. I should want to investigate the area there somewhat before I made a decision about that.

Q. Well, you know about as much about that as you do about these waters up here, don't you? Have you made any survey of the situation down there, or investigated it?

A. No, sir, I have never studied there; I have never studied there as I have here. I have been there.

Q. Assuming that has a channel through it and a current through it, as of course it has, why, that would have to be a river under your definition, wouldn't it? It has shores.

A. I should want to investigate it, but assuming a channel and assuming a current also—

Q. I think I put in everything you suggested except banks, and I put those in now. Assuming all those three things were there, then that would be a river and there would not be any lake there?

A. Yes, sir.

Mr. Bailey: That is all.

Attorney-General Owen: Isn't that what you think about it—that it is a river?

Mr. Bailey: Well, I don't suppose my conclusion will govern,

but everybody else that has ever passed upon it considers that is a lake, I believe.

Examined by the Commissioner:

Q. Have you seen Chequamegon Bay at Ashland, Wisconsin?

A. I have been across it; I never worked there in any detail.

Q. Is that a true bay, or is it not?

A. I should want to know about these two things that I have been insisting on, whether there is any submerged channel  
566 and any current, before I answer that question.

Q. What is a true bay? How does it differ from this up here, the St. Louis Bay?

A. Well, a bay, being a part of the lake or part of the ocean—we speak of it as a place that has standing water rather than running water, of course recognizing that there are currents of the surface type, of the ocean type there. A bay would be a place that had standing water rather than the running water of a river. A bay would be a place that had no definite channel running through it, probably.

The Commissioner: That is all.

567 E. F. BEAN, being duly sworn as a witness on behalf of the State of Wisconsin, testified as follows:

Direct examination.

By Attorney-General Owen:

Q. Mr. Bean, where do you reside?

A. Madison, Wisconsin.

Q. What is your vocation?

A. I am Assistant State Geologist for the State Geological Survey of Wisconsin, and give part of my time to the University as Assistant Professor of Geology in the Department of Geology.

Q. How long have you been Assistant State Geologist?

A. I have had that title for a little over a year; had those duties for about five years, although my title in that capacity was Chief of Field Parties, since a great deal of my time in the summer was spent in directing the work of Field Parties.

Q. Now tell us what the nature of your work has been for the last five years.

A. The State Geological Survey has been conducting work which we call Mineral Land classification. In that work we survey certain areas of the state, running traverse along the section lines and quarter lines, taking dip needle readings and dial needle readings, to determine whether or not there is any magnetic attraction in the particular area we are studying. We map the rock outcrops and in general seek to determine whether or not this area is one where  
568 exploration for iron ore can be recommended. In this work we have covered a large area in northern Wisconsin, the Wisconsin part of the Gogebic Range, large areas in Price,

Ashland, Bayfield counties of Wisconsin, and have worked the last two seasons in the northern part of Wisconsin.

Q. Where did you receive your geological education?

A. At the University of Wisconsin.

Q. When did you graduate?

A. 1909.

Q. Did you teach geology any before you became Assistant Professor in the University?

A. Yes, I began as an Assistant in the department while I was a student.

Q. While you were in the University?

A. Yes, sir.

Q. Have you taught it anywhere except in the University?

A. No, sir.

Q. Didn't you teach it here in Superior?

A. I taught physical geography here in the Blain High School in Superior for one year. I thought you had reference first to teaching.

Q. Physical geography bears a close relation to geology?

A. Yes, sir.

Q. Now, are you familiar with the waters between Superior and Duluth, known as the St. Louis Bay and the bay of Superior?

A. I am.

Q. State the extent of your familiarity with those waters.

A. As teacher of physical geography here, I conducted field excursions with my high school classes to the Duluth bluffs, to Minnesota Point, studying those places, and just as a student of geology, myself, tramped over the Wisconsin and Minnesota Points, and visited a good many of the bays and slips upriver from Superior.

Q. Have you been on boats to some extent?

A. Sir?

Q. Have you boated on these waters to some extent?

A. Yes; more in the way of canoeing, though. I was interested in shore lines and general formation, type of exposures, and so most of my traveling has been by canoe rather than by boat, because that was a more convenient method of making landings.

Q. And the purpose of this traveling was to further your geological examination and exploration?

A. Yes, sir.

Q. Now, from your knowledge of geology and your exploration of these waters and the territory hereabouts, have you formed an opinion as to whether the waters known as St. Louis Bay and the Bay of Superior are part of the St. Louis River or part of Lake Superior?

A. I have always believed that they were part of the St. Louis River.

Q. Now will you state your reason for your conclusion?

A. On my first general visit here, first, the general difference in appearance of the land inside of Minnesota and Wisconsin Points and the land outside of Minnesota and Wisconsin Points. Inside of

the Points we have a shore line which is characteristic of river-formed topography. You have spurs between drowned valleys.

Mr. Bailey: Between what?

Witness: We have spurs of land between drowned valleys. Each of these various slips that we have up the river is merely a  
570 drowned valley between spurs of land. You get outside of Minnesota Point, and the shore line is characteristically a lake shore line, where you have projecting points of land, but the re-entrance is different, that is, the bays are different from the bays that we have inside of the two main points. The second thing that made me feel that this is a river, was the fact that upon examination of the charts I found that within the bays here there are different channels, such as you frequently find in a drowned river valley. The third point was a point that impressed itself upon me the first time that I ever saw the St. Louis River; that was the fact that there was a definite current passing out of the Superior entry,—a current that showed itself in the different color of water out beyond the Superior entry, proving conclusively to me that the St. Louis River had a definite current passing out through the bays and out through Superior entry.

Q. From what points have you observed that current?

A. Well, the most striking places I have seen it have been from the Duluth bluffs; I have seen it several places, from the Boulevard and from London Road in Duluth, and I have been at the Wisconsin entry on the Minnesota side on several occasions when you could distinguish a well-defined current going out.

Q. Now you say, do you, that that current is distinguishable from the Duluth bluff?

A. Yes, there is a very definite color distinction there, the yellowish waters of the St. Louis making a striking contrast  
571 from the greenish or bluish waters of Lake Superior.

Q. About how far is that?

A. Well, any answer that I could give would be just an estimate, but I feel pretty positive that there were times when you could distinguish that for at least a mile beyond the entry. I do not know that as a fact.

Q. I mean how far is it from the Duluth bluffs over to the Superior entry where you observed this current?

A. I must have been at least five miles away.

Q. From five to seven miles?

A. Yes.

Q. Now, is the phenomenon of a drowned river a common thing in geology and physical geography, and is it something that is recognized by scientists?

A. It is.

Q. There are many drowned rivers known throughout the world, are there?

A. There are, for the simple reason that a stationary shore line is a relatively unusual thing. Most of the shore lines that we are familiar with have had movements of uplift or depression some time

in their history; so the phenomena of raised beaches or of submerged drowned valleys are common.

Q. Now, how is this drowned river formed here, in your opinion? In other words, how is the drowning brought about?

A. The drowning may be brought about by a—

Q. I mean here.

A. Here? It is brought about by slight tilting of the land, the south shore depressed relatively to the north shore, resulting in the backing up of water here, the lowering of the level here, resulting in the drowning of this river mouth.

Q. Have you ever studied Grassy Point, Rice's Point, Connor's Point, Wisconsin and Minnesota Points, with a view of arriving at a conclusion as to when and how they were formed?

A. I have studied them, and my conclusion is that Rice's and Connor's Points and Wisconsin and Minnesota Points were formed by a combination of two things. Along shore currents of the lake carry sediment from the north shore, in the case of Minnesota Point, and from the south shore, in case of the Wisconsin Point,—carry that material along and drop it in quieter water. Second, waves coming on shore at the Points, picking up that material and depositing it to form these bars. There has been further action in the work of winds in piling up this sand to some extent in the dunes we find on the Points. But their general location is water action, and the source of the material is from the lake. In the case of Grassy Point, I think that that, possibly, is a spur from the old island, a spur which has been moved by wave action and by river action, leaving it somewhat lower than any other points. It is rather difficult to get the exact information about Grassy Point at the present time, because the activities of man have obscured so many features there.

Q. I suppose you agree that Rice's and Connor's Points were formed before Wisconsin and Minnesota Points?

A. Yes.

Q. Do you think the action of the river or the waters of the river had anything to do with forming any of these points?

573 A. Very little. There may have been some slight modification, but the actual formation of the points was not due to the river. The river does not carry the type of sediment that we find in the points.

The Commissioner: These Points are pure sand?

Witness: Sand out towards their ends, but gravel nearer the main land.

The Commissioner: Near the lake?

Witness: Yes. As a natural thing, the alongshore current dropped the heavier material first, and then finer and finer as it went out; so that the Points as we see them are, in large measure, sand.

Q. By the term "alongshore currents" you mean currents running along the shore of the lake?

A. Of the lake, yes.

Q. And parallel with the shore?

A. And parallel to the shore; set up by winds that are coming in at a slight angle to the shore.



Q. What do you say as to there being tides in these waters?

A. I have never observed the tide here, but the record shows that there were slight tides.

Q. What other influence has caused a rising and falling of the waters at the head of Lake Superior?

A. A strong wind which would tend to cause a piling up of the water at this end of the lake, would cause a rise of water in the basin, and a difference in atmospheric pressure would cause a slight lowering or a slight increase of height here.

574 Q. Did you read the testimony given by Mr. Leonidas Merritt in this case?

A. I did.

Q. Did you read what he said with reference to what he called a "trough theory" in the formation of iron ore?

A. I did.

Q. Did you note his statement that President Van Hise later promulgated or exploited the same theory, giving it the name of "basin theory"?

A. I did.

Q. Now is it true that President Van Hise has exploited what he calls the "basin theory" of the formation of iron ore?

A. He has.

Q. Are you familiar with that theory?

A. I am.

Q. Is that theory the same as Mr. Merritt termed a "trough theory"?

A. The two theories are decidedly different.

Q. What is President Van Hise's so-called basement theory?

A. His basement theory is that iron ores are formed by underground water percolating through what we call iron formation, and in that process dissolving out silica, resulting in a larger percentage of iron, making an iron ore. This is a straight process of solution by underground water, and the basin, the shape of the basin, is controlled entirely by the structure of the formations associated with the iron formation. In the case of the Missabe we have an outlying quartzite formation and an overlying slate formation, which are impervious to water, control the circulation of water, and therefore result in a basin-shaped area or region in which concentration occurs.

575 Q. When did that take place, presumably?

A. It took place some time after the folding of the Huronian rocks, of which the iron formation is a part. That is very ancient geological time.

Q. Was it during the glacial period, or before or after?

A. A very long time before the glacial period.

Q. How does that theory differ from the theory described by Mr. Merritt in his testimony and by him termed a "trough theory"?

A. Mr. Merritt's theory is that the ore was formed by sea water coming in contact with ice and precipitated its iron upon that contact; that favorable places to look are places along that shore where

there are eddies, resulting in concentration or excess development of iron.

Q. That is an entirely different idea from the one promulgated by President Van Hise?

A. Quite different.

Q. How long, about, have these points existed here—Wisconsin, Minnesota, Rice's and Connor's Points?

A. I do not like to express that in years, but it has been a very, very long time.

Q. A thousand years.

A. That is a long time as we figure time in our history, but a relatively short time as we figure geological history.

Q. They have been here a thousand years you would say?

A. Yes.

Cross-examination.

By Mr. Bailey:

Q. As I understand you, the essential difference between  
576 President Van Hise's theory and what you describe as Mr. Merritt's theory is, that under Mr. Merritt's theory the iron ore was deposited from sea water coming in contact with ice?

A. Yes, sir.

Q. And under President Van Hise's theory there was low grade ore in these places where we now find deposits, which was leached out by underground waters?

A. Well, the silica was leached out.

Q. That is what I mean; the silica was leached out, so that it raised the grade of the ore?

A. Yes, sir.

Q. Now, under President Van Hise's theory, how did the low-grade ore originally get there?

A. The origin of the iron formation was a sediment.

Q. Sediment from what?

A. Sediment from—possibly from lands surrounding that.

Q. From what?

A. From higher lands surrounding it. The iron formation is a sediment, something like a limestone, possibly, in its origin.

Q. You say a sediment; I take it a sediment means a deposit?

A. Of water, yes.

Q. Where did the sediment come from, what waters?

A. Possibly from rocks on the land.

Q. No, I say from what waters?

A. Well, ocean waters, that probably had—

Q. Well, where is there anything inconsistent between President Van Hise's theory and Mr. Merritt's theory, because Merritt's theory comes into play before Van Hise's comes in at all.

577 A. Van Hise's theory is that it is a sediment, but a sediment does not form by contact of ocean water with ice, because we have no evidence at all of any ice at that time.

Q. The principal difference is the elimination of refrigeration?

A. Well, that and a good many other things.

Q. Well, what other?

A. In the first place, under the Merritt theory, the origin of the iron ore and the concentration was all taken care of in lump process, and had taken place in recent geologic times.

Q. Then, it is a difference of time?

A. Well, time and process.

Q. Are you familiar with Prof. Winchell's report on the Missabe Range?

A. Just slightly.

Q. Didn't you say that your particular business was following out iron formations and using the dip needle?

A. Yes, sir.

Q. Then, your specialty is iron ore?

A. Yes, I am very much interested in iron ore.

Q. Then, would you say you had not read Winchell's report?

A. Yes, I have read Winchell's report, but it is one of the oldest reports and one we do not follow very much.

Q. Rather out of date, isn't it?

A. Yes, out of date.

Q. And entirely incorrect, as a matter of fact, isn't it?

A. Yes, in some of his conclusions he was wrong.

Q. I am speaking more particularly about the Missabe Range.

A. Yes.

Q. That is, he condemned it as a merchantable proposition, didn't he?

578 A. Practically, yes.

Q. And it has turned out to be the greatest iron-ore deposit in the world, so far as is known, hasn't it?

A. Yes, sir.

Q. How long ago was that report written, wherein he condemned it in unqualified terms?

A. I could not give you the exact date of publication; I should say around 1880, but I would not want to—

Q. Well, it was a little later than that, wasn't it,—in the '80's some time, wasn't it?

A. The field work was done in the '80's, if I remember right.

Q. But his report was made, as a matter of fact, only three or four years before they commenced to ship ore in great quantities from the Missabe Range, wasn't it?

A. Yes; the actual discovery of ore on the Missabe was about 1888 or 1889, wasn't it?

Q. Yes.

A. Yes, 1889 or 1890.

Q. They commenced to ship about 1892?

A. Yes.

Q. So it was in a period of less than ten years that his geological theories were absolutely disproved by the commercial development?

A. Yes, sir.

Q. There are surrounding the head of Lake Superior,—and I

mean by that within one hundred or two hundred miles of the head waters of Lake Superior—very large mineral deposits, are there not?

A. Yes, sir.

Q. Do you know of a single one of those that has ever been proven up or shown to exist by geologists?

579 A. By geological methods.

Q. Yes.

A. I do.

Q. Well, I say by geologists; that is the way I put it.

A. The Cuyuna Range was explored magnetically by exactly the same methods that all geologists are using.

Q. It was explored by Mr. Adams?

A. Yes.

Q. He never went to a geological school at all, did he?

A. I might say that all knowledge is not gained at school. Mr. Adams is a geologist.

Q. In the sense that he used the dip needle?

A. In the sense that he used the dip needle and in the sense that he uses his knowledge of geology in his explorations. He realized the necessity of geological education, as you will find by the fact that he sent his son to Cornell, and when he finished there he sent him for a year's post-graduate work at a university, making him a specialist in iron ore, and he was of great assistance to his father in the development of the Cuyuna Range.

Q. Is that the nearest you can come to it?

A. The instance mentioned yesterday, by Mr. Martin, on the Gogebic Range.

Q. That was where they delineated or marked out in a general way the formation, wasn't it?

A. He outlined the formation, yes.

Q. And some one else discovered the mine?

A. I might mention the case of a geologist, Hugh Roberts, working for the E. L. Longyear Company, who went to a place just a little west of Crystal Falls, Michigan, in an area that had  
580 been abandoned as a mining proposition, and he outlined the proposition by magnetic methods, and he and Mr. Meade of the same company directed exploration there; they did the geological work and outlined an ore body of something like four or five hundred thousand tons.

Q. That was after the ore had first been discovered and mined and abandoned, and then they found an extension of the same ore body?

A. The old ore body had been mined out, and they went on further and found this larger body. I could name other cases of that sort outside the iron country. In the case of the Kennicott—

Q. They can ask you about that if they want to; I am asking you about the head of Lake Superior; I do not care to go off into some other states so far afield. Is that what you were going to say?

A. Yes, there are other instances.

Q. We do not care to go all over the world.

Attorney-General Owen: I think your question contemplated just what he is telling you.

Mr. Bailey: No, I asked him within two or three hundred miles of Lake Superior. If you want to bring it out, you can.

Attorney-General Owen: Well, if your question is limited I do not insist on it.

Q. Now, as a matter of fact, on the Missabe there were none of those mines up there discovered by the dip needle or magnetic operation, were they?

A. One discovery was made by actually finding the ore, shown up by the overturning of a tree, and later discoveries were  
581 made—I won't say later or earlier, but some discoveries were made by test pitting. You have a belt formation there that is very wide and the outcropping is very near the surface.

Mr. Bailey: I will ask the reporter to read the question, and will ask you to try and answer it.

(The following question was read by the reporter: "Now, as a matter of fact, on the Missabe there were none of those mines up there discovered by the dip needle or magnetic operation, were they?")

Mr. Bailey: So far as you know.

A. No; not the early ones, at any rate.

Q. You do not know of any later ones either, do you?

A. I think you will find that some of the later discoveries were outlined by magnetic means.

Q. What?

A. The expiration was controlled by——

Q. What ones, for instance?

A. I cannot give you any.

Q. Any magnetic attraction up there?

A. Yes, the eastern Missabe.

Q. But you do not know of any mines that were so discovered?

A. I cannot give you specific instances.

Q. Do you know of anybody that discovered them?

A. No.

Q. Now, you gave three reasons for thinking or for saying that in your opinion these waters here between Wisconsin and Minnesota, some of which are in dispute, should be considered a river rather than an arm of the lake or bay?

A. Yes, sir.

582 Q. The first one that you gave was that there was a general difference of appearance of the land inside and outside of Wisconsin and Minnesota Points?

A. Yes, sir.

Q. And that inside the shore line was indented to a considerable extent?

A. Yes, sir.

Q. That is the difference that you refer to?

A. Yes, although I elaborated upon that to some extent.

Q. And you say that that characterizes a river rather than a lake?

A. That would be one way that I would characterize it.

Q. Just step down here a minute, will you, Mr. Bean? Now calling your attention to Minnesota Exhibit 18, which is a map of St. Louis County, you see before you the outlines of Vermilion Lake on that, don't you?

A. I do.

Q. And the whole thing is nothing much but indentations, is it?

A. That is true.

Q. Well, you would not call that a river where it is marked "Lake" there, would you?

A. It happens that that is a river which is formed by the blocking of a pre-glacial river.

Q. Then, I take it that under your theory that is now a river and not a lake?

A. No, I did not say that.

Q. It must be, must it not? It conforms to your definition of a drowned river?

A. It has one of the characteristics I mentioned as the characteristics of a river, but in this particular case it lacks some of the other characteristics.

Q. We are talking about the indentations, now, mind. And even Pellican Lake is also full of indentations, isn't it?

A. It is.

583 Q. And you get up here to where you see Kabetogema Lake; that is also full of indentations?

A. Yes, sir.

Q. But you would not call either Pellican Lake or Kabetogema Lake rivers, would you?

A. No, sir.

Q. And so far as Vermilion Lake is concerned, there is a current through that; isn't there?

A. I am not familiar enough with that lake to answer the question.

Q. And there are banks there, aren't there?

A. Yes, sir; shore features.

Q. So that you have got the three features that you suggested, and also a current?

A. I am not sure about the current there.

Q. So, if there is a current, then you have got all the features that you suggested as distinguishing these waters from a lake, to show that they are a river, haven't you?

A. Not necessarily.

Q. Well, what else is there that you have not covered?

A. You have a body of water there that has the general characteristics of a lake.

Q. That is, in Vermilion Lake?

A. In Vermilion Lake, yes.

Q. But they are the same characteristics that you have in upper and lower St. Louis Bay, aren't they?

A. Yes.

Q. Assuming there is a channel through Vermilion Lake.

A. For the simple reason that their history has been much the same. You have the drowned river valley there.

Q. Then, I take it we are getting right around to the point where I asked you if, according to your theory, this which is  
584 marked Vermilion Lake is not in fact a river and not a lake?

A. If you have a drowned channel, if you have a current in Vermilion Lake, under our definition it would be classed as a part of a drowned river. I do not think you have those.

Q. What is that?

A. I do not think you have those.

Q. You know there is an inflow into Vermilion Lake, and out-flow?

A. Practically so there is in every lake.

Q. And you know there is a channel in the lake there, don't you?

A. I don't know about the drowned channel.

Q. Then, do I understand that you get down, in the last analysis, to making the distinction entirely upon the drowned channel feature?

A. In making any classification it is necessary to examine all features and make your classification on the basis of your findings.

Q. Now, you take those two bodies of water right at the top of this Exhibit 18 marked Rainy Lake and Namequan Lake. The shore there is nothing but a series of indentations, is it?

A. Yes, sir.

Q. And in some instances much larger indentations than Pokegama Bay, for instance, or any of these smaller bays that are branching off from St. Louis Bay?

A. Some of them are quite large.

Q. And so far as this larger indentation in Rainy Lake is concerned, at the southerly edge of this exhibit, there does not appear to be any river flowing into it, does there?

A. There does not from this map, no, sir, but you remember that map is not a very complete one.  
585

Q. Not a very complete one.

A. No.

Q. Well, it is the main St. Louis County map that has been in use all over this country for about twenty-five or thirty years, hasn't it?

A. If you cruised that country you would probably find a good many streams that are not shown on that map, though.

(A short recess was here taken.)

By Mr. Bailey:

Q. Now, Professor, the bottom of Lake Superior is unquestionably composed of hills and valleys, submerged, is it not?

A. What soundings we have do not indicate a great deal of local relief. In a broad way it is made in the nature of a broad basin.

Q. As a broad proposition, the bottom of any lake is much the



same—as much the same, so far as the surface is concerned, as the land; it is simply land covered with water?

A. Yes.

Q. And has hills and valleys?

A. The irregularities of the bottom would depend to some extent on the history of the lake.

Q. Yes, certainly. And undoubtedly it is true that if the waters of Lake Superior were at some time very much lower than they are now, then, the rivers that flow into it had channels that extended out farther than they do now?

A. Yes, sir.

Q. And that would be true along the south shore as well as along the north shore, of course?

A. Yes.

Q. And yet you do not now consider that those old channels that are submerged are still rivers, do you, on the north and  
586 south shores?

A. We do not find those old channels.

Q. Well, you have not looked for them, have you?

A. Well, the soundings do not seem to show them up.

Q. Well, they must have been there if the waters of the lake were substantially lower than now, must they not?

A. It is possible, yes.

Q. Now, you said, if I understood you, that you thought the action of the river had nothing whatever to do with the formation of these points, and I think you referred particularly to Minnesota and Wisconsin and Rice's and Connor's Points.

A. Yes, sir.

Q. You think it had nothing to do with it?

A. Practically nothing. It may have changed their shape by erosion to some extent, but not in deposition.

Q. It is true, is it not, Mr. Bean, that there is found a bar of some sort at the mouth of practically every river emptying into Lake Superior? I make one exception, that of the Temperance. Isn't that true?

A. I do not know the rivers on the North shore very well.

Q. There is no bar on the Temperance. So far as you are acquainted, that is true, is it not?

A. Well, I know the Lester River.

Q. There is a bar there, isn't there,—a small one?

A. A very small bar, but apparently the wave action keeps that pretty well swept away there.

Q. Now just let us talk about that a minute.

A. All right.

587 Q. You say the wave action keeps it pretty well swept away?

A. Yes, sir.

Q. Well, what forms it?

A. The two sources are material there—the alongshore current and waves, and the Lester River in time of flood does bring down a good deal of sediment.

Q. Then, you say the Lester River does have something to do with the formation of that bar, in your opinion?

A. It does; yes, sir.

Q. Now, if sediment is brought down the St. Louis River, why does not the St. Louis River likewise have something to do with the formation of the Points at or below its mouth?

A. Because the St. Louis River is not carrying that type of sediment down the lower course.

Q. What type of sediment?

A. The Lester River has a very heavy grade and is carrying in time of storm coarse material.

Q. What kind of material do you find at the mouth of the Lester River? Isn't it sand?

A. It is more likely to be gravel.

Q. The Lester River does not carry down that gravel, does it?

A. Quite a little bit in times of flood.

Q. The rest of it comes from the lake?

A. Yes.

Q. And yet the bar is formed by the gravel that comes from the lake and the sediment (or whatever it is) that comes from the river?

A. Yes.

Q. And the bar is formed just at the mouth of the river?

588 A. Yes, it is where the river drops its sediment on coming into quiet water and also where the alongshore currents drop their sediment.

Q. The reason of it is because of the meeting of the current of the river and the washing (or whatever it is) of the lake?

A. Yes.

Q. So, the action of the river does have something to do with the formation of the bar?

A. Decidedly; I have not denied that.

Q. Why doesn't the action of the St. Louis River have the same effect in forming a bar at or near its mouth?

A. Because it is not carrying material sufficient to do anything.

Q. Well, what you mean then, I take it, is that in your opinion there is not any sediment comes down the St. Louis, but there is sediment comes down the Lester?

A. No, I do not mean that. You have to study each river by itself, each individual case. The St. Louis River is carrying finely divided silt.

Q. You just go ahead and tell in your own language why it is that you think the Lester River has something to do with the formation of the bar at or near its mouth, and the St. Louis River has nothing to do with the formation of the bar at or near its mouth.

A. The St. Louis River is a river, or, in the first place a small stream—

Q. You mean the St. Louis?

589 A. Excuse me. Lester Creek really is a small stream, ordinarily carrying very little water, in times of heavy rain carrying a considerable volume. At those times it carries a considerable load of sediment, gravel and sand, and so on. That material

is carried out and deposited in the lake, and that would build up there a bar of considerable dimensions compared with the size of the stream, if the wave action were not so strong there. In the case of the St. Louis River, in its lower course, it has not a very strong current; the waters are ponded above, so that most of the silt is drawn out or lost in the quiet waters above, and when the stream gets down here it has nothing but finely divided sediment, which is not good material to make a bar.

Q. And that is your explanation of the reason why one river has a great deal to do with the formation of the bar and the other river has nothing to do with it?

A. Yes, just a difference in the two streams.

Q. Now, as a matter of fact, just up above Fond du Lac the St. Louis River flows over a rocky bed, doesn't it?

A. Yes, sir.

Q. And that is washed clean every time a freshet comes?

A. Yes, sir.

Q. So that all the sediment that comes down to that point is carried down this way?

A. Yes.

Q. And, as a matter of fact, the water of the Lester River is very clear and has very little sediment; isn't that so?

A. In dry times; not in times of flood.

Q. That is equally true of the St. Louis, isn't it?

A. Yes.

Q. They both have sediment in times of freshet?

A. Yes.

590 Q. Then, there is not any distinction in what the waters bring down, is there?

A. Decidedly.

Q. Well, what?

A. Difference in size of material that is being carried near the mouth.

Q. The bigger river carries the more material, doesn't it?

A. It may in some parts of its course, but in all streams you will find a difference in the size of material, dependent upon the volume and velocity of the stream.

Q. Well, did you mean, Professor, to say just what I understood you to mean, that the current coming out of the St. Louis River, in your opinion, had nothing to do with the formation of the bars?

A. Except as I have modified it, except for erosion of the bars and keeping openings there. The St. Louis River has been responsible for keeping the Superior entry open. If we had no stream entering this depression here the bars would have been built clear across and you would have had a tight entrance there.

Q. Do I understand that in your opinion, then, the meeting of the current from the river with the waves from the lake and causing a sort of still place there, has nothing to do with the formation of the bars?

A. Practically nothing.

Q. Practically nothing. And yet that is the cause of the formation of the bars at Lester River?

A. That plus alongside currents.

Q. Well, I confess I cannot see the distinction, but I guess you have put your explanation on the record. And you would say  
591 that these other rivers up along the north shore, the Gooseberry and the Knife and the Baptism and the Sucker Rivers, where there are bars up there, you would say that the current from the river does help to form the bar at the mouth?

A. I do not know those streams at all.

Q. You do not find bars along the north shore of the lake except at the mouths of rivers, do you?

A. Yes, you get bars—I don't know the north shore, but you do get bars built along the shores of lakes, bars swinging around from one headland to another, enclosing a lagoon behind—strictly a lake deposition.

Q. Take the north shore of Lake Superior: you do not find bars anywhere along that north shore except at the mouths of rivers and streams, do you?

A. I told you I did not know of the north shore beyond Lester River.

Q. Isn't it a fact, Mr. Bean, that the St. Louis River and its tributaries, the Cloquet and the White Face and the other streams that flow into it, make it, as it flows into Lake Superior, the muddiest river that flows into the lake anywhere? Isn't that a fact?

A. I do not know; that is, I do not know the actual amount of silt carried by some of the other streams. The Bad carries a pretty heavy load of silt.

Q. The Bad River?

A. Yes. And I do not know enough about the relative volumes of silt carried by the other streams to answer that question.

Q. Well, you do know that the St. Louis is a pretty muddy river and carries a good deal of sediment?

592 A. It carries a good deal of finely divided silt, yes, but that is not the kind of material that makes Minnesota Point. Minnesota Point is made of sand and coarser material.

Q. Yes, to a considerable extent.

A. And if you were to take a sample of the waters of the St. Louis River here in the bay you would not get any sand or gravel in your sample.

Q. Is not the bottom of the bay, or of these bays up here, full of sand and gravel?

A. Much of that sand and gravel that you get below the silt is of an earlier origin.

Q. Well, go up there anywhere in the bottom of the bay now; don't you find sand and gravel there?

A. Not directly on the bottom, as I understand it.

Q. Well, where?

A. Underneath the silt.

Q. Underneath the silt?

A. Yes.

Q. How far underneath?

A. I cannot give you that information.

Q. A foot or so, something like that?

A. I have not studied the borings in the bay to give you that information.

Q. And the third reason you gave for considering this a river clear down to the Superior entry was because there was a definite current passing out of the Superior entry, as I understood you?

A. Yes.

Q. Well, there is a definite current passing out where any river flows into a larger body of water, isn't there, and for a considerable distance up?

A. Quite frequently that is the case.

Q. And you find a definite current for a considerable distance out in the larger body of water, do you not?

A. In many rivers that is true.

Q. And the larger the river the farther the current extends into the larger body of water; is that not true?

A. Yes, that in general is true.

Q. And possibly it would extend farther the steeper the descent, as it entered the larger body of water?

A. Yes; of course the volume of the stream is important in that, too.

Q. Yes; I say the larger the river.

A. You said the steeper the descent.

Q. Well, I meant that in addition.

A. The volume of the stream is really of as much importance as velocity.

Q. So that, assuming just for a moment that our theory is correct, the St. Louis River being the largest stream that flows into Lake Superior, you would expect to find the current extending into the main body of the lake much farther than a smaller stream, wouldn't you?

A. Yes.

Q. Take the St. Louis River up above Fond du Lac; the water is practically the same color as the Lake Superior water, isn't it? Not quite so clear, perhaps, but about the same color?

A. As I remember the St. Louis waters farther up stream, there is more of a tendency to be a brownish or yellowish color to them.

Q. When did you look at them—in the fall when the leaves are turning?

A. Well, most of my experience on the St. Louis has been in the spring and fall.

Q. The water in the spring is the ordinary rain-color, isn't it?

A. No, that has not been my experience.

Q. Well, what is it?

A. It has a tendency to have at that time a somewhat heavier load of sediment and be of a dirtier color than it is later on when its drainage is coming off more lightly, by seepage.

Q. The color is black, isn't it—dark?

A. It is a dark color, yes; it is not clear.

Q. You do not find much clay color in it up there, do you,—up above Fond du Lac?

A. No.

Q. No yellow color?

A. Well, I should say it is a yellowish color. I don't know that "yellow" quite describes it. It is a color that I should ascribe in part to sediment and in part to organic matter.

Q. Have you been up to the reservoir formed by the Great Northern Power Company dam at Carlton?

A. Yes.

Q. Isn't that water quite as dark as the water in Lake Superior?

A. To my mind—it has been a good many years since I have been at Carlton—it is not the same color.

Q. It is just as dark, isn't it?

A. Why, there is a difference in the two bodies of water there, it seems to me.

Q. Well, just answer the question.

A. No.

Q. It is not?

A. Not as I remember it.

Q. You do not find any clay color in the water, do you?

A. You would not expect to.

Q. I say you do not find it; do you?

A. No.

595 Q. Now, this discoloration that you speak of out in the lake, that is what you call a clay color, isn't it—light clay color?

A. It is a yellowish color.

Q. Very pronounced?

A. It is striking in contrast with the lake water.

Q. Don't you know it is a fact that that is caused almost entirely, if not entirely, by reason of the dredging and the depositing of materials out there, that have been deposited from the dredging of the channel that the government put in up through these bays?

A. I don't know as I caught your question.

Q. Well, you know that the government has dredged a channel from the Superior entry clear up through these bays, up to Big Island, and I don't know but beyond; don't you?

A. Yes.

Q. And quite a deep channel?

A. Yes.

Q. And that it has done quite a lot of dredging in the slips around, and private parties have done a lot of dredging in these slips around?

A. Yes.

Q. To form docks?

A. Yes.

Q. And that all that material has been hauled out just a little beyond the Superior entry and dumped?

A. Yes.

Q. You know that, don't you?

A. I do not know the exact place of the deposition of that material.

Q. And also in front of the Duluth entry; it has been hauled out there; you know it has been hauled a little ways out?

A. Yes.

Q. And dumped out there?

A. Yes.

596 Q. And that that material is largely clay, yellowish clay?

A. Silt.

Q. Yes, silt. We common people call it clay, but we will call it silt.

A. There is a little difference in the size of the material, that is all.

Q. But there is not any difference in color?

A. Not a great deal, no.

Q. I say you know that has been hauled out there?

A. I know they have dredged; I do not know where they have dumped it.

Q. And whenever there is wind or the stirring of the waters by reason of what we call a "northeaster," why, that material is, by the action of the waves, turned up and the water discolored out there, isn't it?

A. Yes.

Q. So, that is the real reason for the discoloration of the water that you see there at times, rather than any discoloration from the water that comes down the St. Louis River, isn't it?

A. No; I don't think you have caught the idea of what I was describing.

Q. All right; let us hear what you have to say.

A. The discoloration of the water in the Superior entry has a very definite relationship to the Superior entry. There is a lobe of discolored water right opposite the Superior entry, out into the lake, and apparently, so far as known, and to my notion, the source of that material is directly from the St. Louis River. Whether that material comes from the stirring up of the waters here and

597 carrying out that fine silt by the river or not—I don't know the source of it.

Q. You are not prepared to say there is enough difference in the color of the water up there above Fond du Lac and the water of Lake Superior so that you would see that, if it did not pass through these waters that have been commercially dredged, would you?

A. Why, a stream usually has—

Q. No, just try to answer the question, please.

A. What is your question?

(The question was read by the reporter.)

Q. No, that is not quite right. I say you are not prepared to say there is enough difference in the color of the water in St. Louis River above Fond du Lac and the water of Lake Superior, so that there would be any noticeable difference at the Superior entry, if it were not for the fact that it passed through these waters that have been commercially dredged?



A. I think the stream must derive a certain amount of sediment from the dredged waters here.

Q. Certainly. And if it were not for that fact you probably could not see any discoloration up there?

A. Probably not.

Q. You find there at Grassy Point, close to the surface, the same kind of material that you do on Rice's Point or Connor's Point, don't you,—substantially the same kind?

A. I was unable to find from my studies of Grassy Point any exposures that made me think they were not man made. There was such a filling of sawdust and bark and slabs there that I am  
598 not sure what the underlying material is.

Q. You do not know whether in the early day—and I mean by that not thirty thousand years ago, but within the memory of people who are living here now—that was a swamp, do you? Grassy Point.

A. I should suspect that Grassy Point, just from the general appearance of it, and the fact there has been so much filling there, must have been a pretty swampy place.

Q. Practically swamp all over there?

A. Yes.

Q. The surface there is quite different from the natural surface of what we might call the main land, isn't it?

A. I do not know enough about the underlying material there to answer that question.

Examined by Attorney-General Smith:

Q. Do you know, Professor, where the north and south line between Wisconsin and Minnesota strikes the St. Louis River?

A. North and southline between——?

Q. Minnesota and Wisconsin, strikes the St. Louis River.

A. I have never been there.

Q. Have you been up to Fond du Lac village?

A. I have been there, but I did not have the boundary in mind at all when I was there.

Q. You know that it is up-stream from Fond du Lac village?

A. I judge so, from some of the testimony yesterday, but I do not know anything about it as a matter of fact.

Q. Have you made any examination of the St. Louis  
599 River in and above Fond du Lac?

A. Except at Thomson.

Q. Except where?

A. At Thomson.

Q. Thomson is farther up than Fond du Lac some ways, isn't it?

A. Yes.

Q. And there are rapids to a considerable extent between Thomson and Fond du Lac?

A. Yes.

Q. Then, your investigation of the river at Thomson would not be a fair investigation of the river, and you would not draw any

conclusions as to the river at Fond du Lac from your examination of it at Thomson?

A. No, except that much of the silt is probably taken out of the waters of the St. Louis at Thomson by the dam.

Q. Thomson is a place where the dam is constructed, from which the power comes that lights the city here, isn't it?

A. Yes, sir.

Q. How short a distance below Fond du Lac have you examined the river?

A. Why, I am only familiar with the river from Superior up to the Steel Plant.

Q. How much of a descent is there between the Steel Plant and the lake?

A. Very slight, if any.

Q. Have you ever examined, in the vicinity of the Steel Plant, the old bed of the St. Louis River existing before the tilting of the east end of Lake Superior?

A. I have not.

Q. Have you any idea how deep the old bed was, covered by the water which was set back from the tilting of the east end of Lake Superior?

A. Except that some of the engineers up there told me 600 that they found considerable beds of the gravel and clay and so forth in their excavations, but I never was there when the excavation was going on.

Q. They also told you they had found stumps in the same region, did they not? Did they ever tell you that?

A. They did not tell me that, no.

Q. You have heard of that?

A. I have never heard of the stumps at the iron plant, no, sir.

Q. Did you hear the testimony yesterday, with regard to the stumps being up there in that region?

A. I understood in the testimony yesterday the stumps were down this way farther.

Q. And also up on the St. Louis River. Then, you do not know anything about the old bed of the St. Louis River, that was covered up at the time of the setting back of the water, up to that point?

A. No, sir.

Q. How deep is it your opinion that, in the vicinity of the Steel Plant, the water was set back?

A. I do not know.

Q. You have no opinion?

A. No.

Q. Well, you have an idea, some idea, haven't you, of how much the water set back there?

A. As I told you, I did not get enough definite information from the Steel Plant people to form a definite opinion.

Q. Didn't you make an examination of the river there yourself?

A. Slightly, yes.

Q. Do you know how much area the river and the tributary bays to it cover between the Steel Plant and Fond du Lac?

601 A. No.

Q. You have been over that portion of the river?

A. No, I am not familiar with the river above the Steel Plant.

Q. You know that it is navigated up to Fond du Lac?

A. Yes, sir.

Q. And that for certain purposes it has been for a long time navigated up to Sandstone quarries above Fond du Lac, don't you?

A. Yes, sir.

Q. Have you ever made any observations as to the character of the water in the river at the Steel Plant?

A. Except just the observations that I would make in traveling over in a canoe.

Q. Never noticed anything peculiar?

A. Except that they were colored, and such a color that you would not consider them for drinking purposes, ordinarily.

Q. What would be the difference between the character of the water at the Steel Plant and at Thomson?

A. My observations of the river at Thomson and at the Steel Plant were so far apart that I would not want to answer that question.

Q. They were not made under the same conditions?

A. No.

Q. Your observations. How far is it from Big Island to the Steel Plant?

A. I could not tell you that.

Q. Have you ever visited Spirit Lake?

A. Yes, I have been through it.

Q. That is to some extent a settling plant, isn't it, for waters to get into?

A. Yes.

Q. The open channel into Spirit Lake by nature was from the direction of Lake Superior, wasn't it?

602 A. I did not get that question.

(The question was read by the reporter.)

A. I do not know as I understand your question.

Q. Well, there is now a little channel from the southwesterly, I would say, into Spirit Lake; isn't there?

A. As I remember it, yes.

Q. Well, you have examined your maps of that region?

A. Not recently.

Q. Well, don't you as a matter of fact know that there was no entrance whatever at Spirit Lake by nature except from the eastward?

A. Could I look at a map?

Q. What?

A. Would you just as soon let me look at a map and ask those questions.

Q. Yes, if you can find a map there.

The Commissioner: Look at the Meade map.

Attorney-General Smith: There was a map made before the Meade map, as I recall it.

(The witness refers to one of the maps in the case.)

Q. Here is Spirit Lake (indicating); there was no connection there?

A. You mean connection across?

Q. Yes; except made later, and artificially.

A. There is a slight suggestion, Mr. Smith, that the deeper water here—

Q. That is in Spirit Lake?

A. Yes.

Q. But this land was unbroken, wasn't it, right around here, as you understand it, all the way from that point right there, clear around? (Indicating.)

A. Apparently so.

603 Q. Did you hear Mr. Martin's testimony of how deep the water would run back from the lake in heavy winds?

A. I did.

Q. Now, that amount would carry the water up to the Steel Plant, wouldn't it?

A. I do not know.

Q. Do you know anything about the variations of the volume of the St. Louis River, in times and seasons?

A. I read, a number of years ago, something about the fluctuations in volume, but I do not remember the figures at all now.

Q. At what time of the year were you up at Thomson?

A. I was up there in May.

Q. Was that before or after the spring flood had begun to come down the river?

A. When I visited Thomson I was interested primarily in the rock outcrops, and we spent all our time on the outcrops; so, my interest was entirely in rocks rather than in rivers.

Q. And you have continued such interest since?

A. To a large extent.

Examined by Mr. Fryberger:

Q. Now, Mr. Bean, I want to ask you with reference to the definition of a river. You define for us a river, your idea of a river.

A. A river is a body of water or stream of water flowing through the land, a stream which usually has banks and a more or less defined current.

Q. Well, what do you mean by "usually has banks"? Did you ever know of a river that did not have banks?

604 A. Well, perhaps I had better say that has noticeable banks. If you take the Mississippi River, for instance, your bluffs are at some distance from the river, but you are likely

to find a general control of the river by banks, to get far enough away from the flooded plane.

Q. There are always banks to a river, aren't there? Is there any place where you have observed a river without banks?

A. Well, I don't think of any that did not have at least low banks.

Q. Now, as a matter of fact, isn't there a continuous current from the source to the mouth of a river? Isn't that one of the characteristics of a river?

A. Yes.

Q. So, where a body of water has a current, sometimes one way, sometimes up and sometimes down, you would not ordinarily call that a river, would you, that body of water?

A. If it had the other characteristics of a river I should.

Q. If it had the other characteristics of a river?

A. Yes.

Q. Now I want to read to you the definition of a river as given by Major David C. Huston, Major in the United States Army, Corps of Engineers, and being the same definition that I called Mr. Martin's attention to, and I want to ask you if you have any criticism as to that definition. "A river properly is one where the current is always from its source towards its mouth." Now do you differ from that?

A. I think that is a little too narrow a definition.

Q. Don't you think that is the commonly accepted idea of a river, by people generally in this country? I am not talking  
605 about geologists; I am talking about people in general.

A. The very fact—

Q. Just answer the question.

(The question was read by the reporter.)

A. No.

Q. You think not. Then, you think that the Major was wrong in that definition?

A. In part.

Q. You realize, don't you, that he was a man that was in charge of this work here at the head of the lakes for three years?

A. I do.

Q. And of education of course, or he would not occupy that position.

A. Certainly.

Q. But you think he was wrong. Now let me continue his definition, or, rather, his description of the St. Louis Bay. "Near the mouth where it empties into large bodies of water, such as the ocean or any large body where the surface rises and falls, the current is affected by this rise and fall of the larger body of water and the tides, so that we have the river proper where the current is always from the source down, and the tidal department where the direction of the current varies, and where the cross-section of the water is not due to the river proper." Have you any criticism to offer to that?

A. That statement is true.

Q. That is all true, is it, and you agree with it?

A. Yes.

Q. That is where the water rises, he says, owing to the tide and flows back; that is not a river? You agree with him on that?

A. That is not what he says.

Q. Well, I will read it again, and I wish you would pay close attention to it, please. "Near the mouth where it empties into large bodies of water, such as the ocean or any large body where the surface rises and falls"—the surface rises and falls here in these bays, does it not?

A. It does.

Q. Well, he says in that kind of a case it is not a river, doesn't he?

A. Read the statement.

Q. "The current is affected by this rise and fall of the larger body of water and the tides, so that we have the river proper where the current is always from the source down." Do you understand that?

A. Yes, sir.

Q. Do you agree with that?

A. Yes.

Q. A river, as you understand his statement, is one where the current is always down; isn't that true?

A. Yes, sir.

Q. The current is always down in these bays, is it?

A. No.

Q. Well, then, do you agree with his statement?

A. You have not finished the statement yet.

Q. Well, do you agree with it that far?

A. I agree in the sense with what he says, that there is a part of the river where the current is always down.

Q. "And the tidal department where the direction of the current varies, and where the cross-section of the water is not due to the river proper." Now this river, the St. Louis River has nothing to do with the level of the water in the bay; is that true?

A. Very little.

Q. If there was an opening there the lake would create the same level in the bay that exists now if there was no St. Louis River?

A. Yes.

Q. "That is, due to the water which properly comes from the river. These bays into which rivers empty are not due, their physical formation is not, to the river; they are generally due to other causes. The bay of Superior is a body of water, the level of which is affected by the level of Lake Superior; so I do not consider the mouth of the bay of Superior as the proper mouth of the St. Louis River in a scientific sense. I would place the mouth of the St. Louis River proper several miles above Rice's Point, because the current, the up stream current caused by the lake, extends several miles above that point at times, and the formation of the stream, its banks, is evidently due to the action of the lake in that portion." Now, don't

you understand that Major Huston contended and stated that, in his opinion, Superior Bay, upper and lower Superior Bay, were bay and not river because the current did not flow continuously one way? Don't you understand that from his statement?

A. I understand his statement.

Q. Now do you agree with that?

A. I do not.

Q. So, in your opinion he was wrong when he said that those bays did not constitute a river?

A. He was.

Q. And the fact that this man, competent engineer, Major of the engineers of the United States Army, made this statement, does not shake you in your opinion in the least?

A. It does not.

608 Q. And the fact that he had charge of this work and worked in these waters for three years does not change you or shake you in your opinion in the least?

A. It does not.

Q. How old are you?

A. Thirty-five.

Q. Now I want you to listen to this question and answer it. "Q. What point would you fix as the mouth of the river? A. In the neighborhood of twelve miles above Rice's Point. Not attempting to fix it definitely, I would fix it at that point where the current ceases to be affected by the oscillations of the lake." Now do you agree with that?

A. I do not.

Q. You think he is wrong again?

A. I do.

Q. Just as long as there is a current and there are banks you claim there is a river?

A. I do, in general.

Q. What is that?

A. I do.

Q. Well, take the case of the Chesapeake Bay, The Susquehanna River runs into the Chesapeake Bay, does it not?

A. It does.

Q. Where is the mouth of the Susquehanna River? At the point where Chesapeake Bay opens into the ocean, or 150 miles or so above that point.

A. I am not familiar with Chesapeake Bay, but I should think it would be up the bay considerable.

Q. Well, you would think it would be at the exact point where that river puts into what we know as Chesapeake Bay, wouldn't you?

A. Well, my answer would be determined in a large measure by what the soundings show there and what the current is, and so on. I am not familiar with that situation.

Q. Isn't Chesapeake Bay a well-known bay?

A. Yes.

609 Q. How wide is it?

A. Oh, forty or fifty miles, I should say.



Q. Well, no one ever calls that a river in this country; do they?

A. No.

Q. You never heard it called a river, did you?

A. No.

Q. You learned about Chesapeake Bay when you went to the common school, didn't you?

A. Surely.

Q. Never heard it called a river yet, and you are not prepared to say it is not a river because you do not know the soundings?

A. I do not know the history of the bay.

Q. Did you ever read the Enabling Act creating the State of Wisconsin, the boundary of the state?

A. I have.

Q. Well, isn't it purely a matter of geography and not of geology where that boundary is?

A. Yes.

Examined by Mr. Bailey:

Q. Just a question, Mr. Bean. Just suppose that a canal was dug from Carlton over to the Mississippi River, so as to divert all the waters of the St. Louis River at that point, so that none came down this way at all. The water in these upper and lower St. Louis Bays clear up to Big Island, the head of Big Island, would still remain approximately at the same height, wouldn't they?

A. Yes.

Q. And there would still be an in-flow and an out-flow to the Superior entry?

A. Due to those causes mentioned, that is, winds and so on.

Q. Yes.

A. Yes.

Q. Would you consider Lake Peppin, what is known as  
610 Lake Peppin I will say, to be a river rather than a lake?

A. As far as its history is concerned it is a river.

Q. That is, geologically speaking you consider it a river?

A. Geographically speaking, too.

Q. Well, you are a geologist, aren't you?

A. Yes.

Q. Well, do you pretend to speak from a geographical standpoint, in a scientific way?

A. Well, geologists are very frequently students of geography also.

Q. Well, politically speaking, then, it is not known as a river, is it? It is known as a lake?

A. It is known as a lake.

Q. And it would be known as a lake, ordinarily, in any acts of Congress or anything of that sort?

A. Yes.

Q. What?

A. I should think so, yes.

Q. And it would be considered a lake and known as a lake in judicial decisions, you would think, too, wouldn't it?

A. Yes.

Q. And geologically speaking you would consider it a river?

A. In its history.

Q. It is in the same sense that you are testifying that these bays are a river rather than an arm of the lake?

A. No, not quite the same.

Mr. Bailey: All right; that is all.

Examined by Attorney-General Owen:

Q. You understand the constitutional boundary lines of this state, do you not?

A. Why, I have read the description of the boundary line.

611 Q. Does it say anything about the boundary line running through Lake Peppin?

A. I do not remember that particular place in the boundary.

Q. You have never heard of that in the boundary line, have you?

A. I don't remember it; no, sir.

Q. Or Lake St. Croix, either?

A. No, sir.

Q. So that if Lake Peppin is not a part of the Mississippi River, we have not any boundary between the State of Wisconsin and the State of Minnesota through that body of water?

A. No.

Q. So, politically speaking, as well as geographically and geologically, wouldn't you say that Lake Peppin was a part of the Mississippi River?

A. Is a part of the Mississippi River?

Q. Yes.

A. Yes.

Q. Now, you were asked questions about Lake Vermilion, but I think you were not permitted to testify as fully as you would have liked with reference to that lake. Are there some comparisons between Lake Vermilion and these waters known as the Bay of St. Louis and the Bay of Superior that you would like to make, that you were not permitted to make?

A. The history of Lake Vermilion is the history of a drowned valley or depression due to the glacial interruption of waters; but the shape of some of those bays is different from the shape of some of the bays that are tributary to our bays here, largely due to the fact that many of those were just irregular depressions of the land into which the water backed up, giving an irregularly shaped depression, that lacks much of the valley shape that is characteristic of the bays tributary to this bay. It is a difference in the history of original feature there.

612 Q. You say that there is a difference in the indentations?

A. Yes; their general shape is more irregularly shaped, sometimes V-shaped, broadly V-shaped, sometimes U-shaped, and so forth, depending upon the original topography there, which may not have

been a definite valley at all, but just an irregular depression in the land. In case of the tributary bays here, we had definite valleys into which the water backed, and we had definite ground, tributary valleys, giving that typical shape.

Q. It was your statement that the waters of the river had nothing to do with the formation of these bars out here?

A. It was.

Q. You base that on the fact that you find no river material in those bars; that all the material that is found in those bars is lake material?

A. It is characteristic of lake material, sir.

Q. Consisting of sand and gravel?

A. Yes.

Q. And that, you say, is formed by the currents of the lake?

A. The alongshore currents.

Q. The alongshore currents?

A. And wave action.

Q. Now, you were asked whether there were not bars formed at the mouths of nearly all the rivers leading into Lake Superior. Permit me to ask you whether you find bars at any place other than the mouths of rivers along the shores of the lake?

A. You get bars, crescent-shaped bars, very frequently, 613 extending from headland to headland along a shore, due entirely to the alongshore current, and have absolutely no relationships to any streams.

Q. So that you do not necessarily have to have a mouth of a river in order to have the bar form in the lake?

A. No.

Q. Do you think that the current of the river coming down had any influence on the alongshore currents?

A. No.

Q. So that Minnesota Point and Wisconsin Point would have been built up if there had not been any St. Louis River, just the same?

A. Yes.

Q. Now, you were not permitted to state very fully the difference in the color of the water that you saw at Thomson and the color of the water in the lake. Now I will ask you to state, as fully as you desire, the difference you observed in the color of the water at Thomson and the color of the water of Lake Superior.

A. As I remember the color of the water at Thomson, it had a slightly yellowish color, which I at that time ascribed to a stain, an organic stain of vegetation. I remember dipping up some of it and examining it for sediment, and mentioned at the time that it was practically devoid of sediment, and of course I ascribed that to the fact that it was ponded water, and whatever sediment had been carried by the river upstream had been lost there in the reservoir. And so my idea is that that water there is of a yellowish color, in large measure due to organic matter. The general color of the water, the mass of the water, is rather dark, as all such waters are.

614 Q. What color do you call the waters of the lake?

A. Sir?

Q. What color do you call the waters of Lake Superior?

A. Well, it always seemed to me that the color varied somewhat with atmospheric conditions, giving sometimes a blue and sometimes a greenish cast to the water. I think atmospheric conditions and light conditions seem to affect the color to some extent.

Q. Does it ever have a muddy color, the muddy appearance, that the waters of the river have, except where the river is emptying into it?

A. Except where the river is emptying into it and where there is a fringe of colored water. When there is a northeaster you will find a fringe of water along Minnesota and Wisconsin Points, where the waves are turning up the sand, and give a slightly yellowish color to the water.

Q. Do you know of any river in South America which part of the time flows into the Amazon River and part of the time into the Orinoco?

A. Yes.

Mr. Fryberger: The River of Doubt that Roosevelt discovered.

The Commissioner: Is that material?

Attorney-General Owen: According to the Major's testimony here, it could not be a river if it flowed one way part of the time and the other way part of the time. That is the materiality of it.

Q. What is the name of that river?

A. One of them is the Cassiquare.

Q. Is there more than one?

615 A. There are two streams heading on a low divide there between the Orinoco and the Amazon, and in times of high water, or due to heavy rains, there is a reversal of drainage. Sometimes the southward flowing stream flows north over the low swampy divide to the Orinoco, and sometimes the northern tributary flows southward to the Amazon.

Q. Now, according to the Major's testimony here those would not be rivers at all, would they?

A. No.

Q. As you understand it.

A. Not as I understood his definition.

Q. When you speak of a current in the river, do you mean the action of the water that is precipitated or created by storm?

A. No.

Q. What do you mean by the "current"?

A. I mean the actual flow of water due to gravity, whether it is visible in ripples or just a quiet, steady flow that can hardly be determined.

Q. Under normal conditions?

A. Under normal conditions; yes, sir.

Q. And that is the current that, in your opinion, stamps that water as a river?

A. As a river; yes, sir.

Q. Now, there is a current down the Mississippi River, isn't there?

A. Yes.

Q. It is a fact that the wind blows hard enough on that river sometimes so that objects on the surface flow upstream?

A. Drift upstream.

Q. According to the Major's definition of a river, that  
616 would not be a river, would it?

A. No, not that portion of the river.

Q. No. And there is running through the Bay of St. Louis and the Bay of Superior a current towards Lake Superior, entering Lake Superior at the Superior entry?

A. There is.

Q. And the fact that at times the wind blows hard enough on Lake Superior so that objects flow up the river instead of down, in your opinion does not change the fact that those waters are part of the St. Louis River?

A. I think not.

Q. Have you had occasion recently to examine the Carnegie dock at Grassy Point, on the Minnesota side?

A. I have.

Q. How long ago?

A. On the 6th of August, 1917.

(A recess was here taken until two o'clock P. M.)

617 August 8, 1917, 2 p. m.  
Redirect examination.

By Attorney-General Owen:

Q. Just as we adjourned I think I asked you, Professor, if you had had occasion recently to visit and look over the Carnegie Dock above Grassy Point on the Minnesota side.

A. My answer was, on August 7, 1917.

Q. You were at the dock?

A. I was.

Q. Did you observe on the dock any line indicating a boundary line between the State of Wisconsin and State of Minnesota?

A. I observed a line made by cutting out the cement and filling in with tar with the abbreviation "Wisconsin" on one side and "Minnesota" on the other, in letters nine or ten inches high, I should say.

Mr. Fryberger:

Q. What were the letters?

A. "Minn.", abbreviation for Minnesota, and "Wis." Wisconsin.

Q. At what point on the dock was that line?

A. That was about two-thirds—From the up stream side of the dock, about two-thirds of the length of the dock out from the Minnesota side. Taking that line about one-third of the dock would be on the Wisconsin side of that line and two-thirds on the Minnesota side. That's a rough estimate. I didn't pace it off.

Q. Was that line drawn about the place that the old channel would go down through there?

A. Just about as near as we could tell from maps and general appearance of,—well, the small islands and so on in the bay.

618 Recross-examination.

By Mr. Fryberger:

Q. Who asked you to go and look at that dock, Mr. Bean?

A. The purpose of being over there was merely to look at Grassy Point.

Q. (Question read).

A. No one asked me to go and look at the dock.

Q. Well, did someone tell you who put those marks there?

A. After I was on Grassy Point someone told me that the marks were there.

Q. Who put them there, officials from the City of Superior?

A. No, sir.

Q. Who did put them there, do you know?

A. This is hearsay evidence. Do you want hearsay evidence?

Q. Just someone on the dock told you?

A. Yes, sir.

Q. That is all you know about it?

A. That is all I know about the origin of the marks.

Q. Let's have that; let's have hearsay evidence or anything else. We want to know all you know about these marks.

A. A young man around the office of the Carnegie dock—there is an office right near the Duluth end of the dock. I think that is the Carnegie office. He told me that there were marks down there, described the marks to me and said that the chief mechanic of the Carnegie Dock Company put those marks in.

Q. The chief mechanic of the Carnegie dock?

A. Yes.

Q. Were they done for the purpose of locating the line for making the assessments on the personal property for Superior?

A. I asked him about that and he said as he understood it some engineers whom he didn't know gave the chief mechanic the location about two years ago.

Q. Those engineers came from Superior, didn't they?

A. I asked him about that, and he was under the impression, he didn't know, he was under the impression that they were United States men, but he didn't know about that.

Q. What do you think about that; haven't you heard from Mr. Gard or some of these men?

A. I haven't heard anything at all.

Q. You haven't heard a word from any of the attorneys connected with the case?

A. I have not.

Q. Haven't you heard from somewhere that they were Wisconsin engineers?

A. No, sir. The marks and all about them were entirely new to me. I never knew there were any marks there till I got over to Grassy Point Monday afternoon.

Q. What did you go over there for?

A. To examine Grassy Point. We circled around the dock to get up the back end of Grassy Point to look around with relation to the bluff.

Q. You only saw them on one side of the dock?

A. Just on one side.

Q. Did you know that there had been assessments made on both sides in both states, of the property?

A. I did, yes, sir.

By Mr. Bailey:

Q. Mr. Bean, you have said several times that you think certain parts of these waters was river, partly because of the channel, 620 the drowned channel?

A. Yes, sir.

Q. Have you ever made any examination of the river, taken any soundings?

A. I have not.

Q. Or taken any soundings either of the lake or the river, yourself?

A. I have not.

Q. And so what are you basing your testimony on?

A. On the United States Hydrographic maps.

Q. What one, the Meade map?

A. No; the more recent maps.

Q. Then do you refer to the dredged channel?

A. I refer particularly to the old meandering channel that is shown by the line of soundings, and of course you can follow something of the history of the river by studying the older charts. The Meade map shows it quite clearly.

Q. Now then, just step down here. Now referring to Minnesota's Exhibit 1, which is the Meade map, you don't find any channel through what we have spoken of here as lower St. Louis Bay, except for a short distance, do you?

A. We find a rather definite channel here to the east of Grassy Point and a somewhat shallower channel, evidences of it, in good shape to the north of Grassy Point and on down towards Rice's Point we find the same channel picking up, going out between Rice's Point and Connors Point, find the same thing continuing out.

Q. The channel you say picking up down here has been entirely lost between the points you left off and the point you started in?

A. Almost entirely lost. There is a slightly deeper place in one place.



621 Q. The slightly deeper place you speak of comes across—

A. If you take across section here you find a depth of nine here as compared to seven here (indicating).

Q. You find eight and nine over here at the south side just as often as you do eight and nine at the north side?

A. Yes.

Q. So that that indicates the channel is lost is between?

A. Pretty well filled up.

Q. So that so far as the channel proposition is concerned here you don't find any river in lower St. Louis Bay, do you?

A. Yes, sir.

Q. Not on the theory that you have spoken of?

A. You find that that channel is in part filled up in places.

Q. That is the earliest map with any soundings on that you know anything about, isn't it?

A. Yes.

Q. And you have rather located the channel along towards the northerly shore that you speak of, haven't you?

A. Following the line of deeper soundings which seems to indicate the old channel.

Q. Then you haven't seen this old Bayfield chart that shows a line of soundings along the south shore in these same waters?

A. I haven't looked at it recently, no, sir.

Q. Suppose you take a glance at that and find the soundings along through the south—it is Minnesota's Exhibit 7—you find the line of soundings going along near the Wisconsin shore, don't you?

A. Yes; but that is just one isolated group of soundings taken up here.

622 Q. The Meade map is the only map that you have to base your testimony on as to soundings, at all, unless it is this Bayfield map, and the Meade map doesn't show any channel?

A. Yes.

Q. And such channel as the Bayfield chart shows is along the south shore. So what have you got to base any testimony on that there has been any filling up there?

A. The Meade map and practically every other hydrographic map published since shows the channel somewhere in these waters.

Q. You said the Meade map shows it was filled up?

A. For a short portion.

Q. You don't know anything about what was there before the Meade map unless you take the Bayfield map?

A. You don't find when a channel has been submerged that that channel is preserved perfectly throughout its length. You will find places where it is filled up, places where it is more or less preserved.

Q. Isn't it entirely possible that the channel that you find on the Meade map from about Rice's and Connors Point out to Minnesota Point, on your theory was made after those points were formed?

A. That might be. There was a good deal of scouring after the points were formed.

Q. That part of the channel wasn't an old bed of the river, then?

A. It is the present course of the river. We don't know whether it's the bed of the old river or not.

Q. So far as you know it might be inwash and outwash of the lake when the wind and the tide blows the water in?

A. It might be possible.

623 Q. But you can't tell?

A. Can't for sure.

Q. You said that the material that you found in these points of land each side of Wisconsin and Minnesota Points was lake material as distinguished from river material?

A. Yes.

Q. That would tend to indicate that there must be lake waters to precipitate from if that material was precipitated?

A. The bars were built up from the lake side.

Q. So it is really the lake that built the bars?

A. Yes; the lake is building the bars.

Q. You have testified, I believe, that you were in the Geological Department of the State of Wisconsin?

A. State Geological Survey, yes, sir.

Q. And this Minnesota Exhibit 50 is a publication of your department, is it not?

A. It is, sir.

Q. And I presume that you agree with Professor Martin, who was on the stand, as to the accuracy of such surveys as to boundaries?

A. In so far as geological information is concerned.

Q. He testified as to the boundaries, too, that such maps were very accurate as to boundaries; you agree with that, do you?

A. No, I wouldn't agree that that map was necessarily accurate as to boundaries. Mr. Martin was not testifying with relation to that type of map.

Q. Your department at the present time is a part of the United State Geological Survey, is it not?

A. It is not.

Q. How is it connected with it?

A. Independent entirely. We are a state organization entirely.

624 Q. Don't you operate with them at all?

A. We do some work in co-operation with them, but are entirely independent of them in our work.

Q. You are independent in the sense that the state pays?

A. The state pays and we have our own organization directing the work, and do work in the state that we are interested in, regardless of the United States.

Q. But you do work in co-operation?

A. Topographic maps are made in co-operation with the United States Geological Survey.

By Mr. Fryberger:

Q. Is it your contention that your work as a state geological survey is less accurate than the Government?

A. Not necessarily. I do contend that this map was made very

long ago; that the features that are brought out on that map are general features of geology on the Reconnaissance map and with no intention to show details or river courses any more, I suppose, than were shown on the original Government survey.

Q. How do you know what the intention was? It was done before your time?

A. It was. We can get some idea by knowing the methods of doing the field work. I know that a good deal of that work was done by pack, by cruisers, going through the country and visiting rock outcrops.

Q. What about the work that was done around Lake Superior at that time; was that done by cruisers too?

A. I am not sure that the men that made that map visited Superior, simply because there were no outcrops in Superior that they would be interested in.

625 Q. Don't you think that they got the information from the United States Geological Survey?

A. I don't suppose so.

Q. Why wouldn't they?

A. Because the United States Geological Survey had practically no information about the geology of this country at that time.

Q. When was it made?

A. I think the field work was done about 1877 to 1881.

By Mr. Bailey:

Q. They didn't make the map before they did the work?

A. No, sir.

Q. The map was made in 1877?

A. The map was published in 1877. That is, the information was gotten in shape for publication and filed in the State Capitol a number of years before they published it. It was quite an extensive undertaking and they had to wait for money to do it.

Q. What do you mean that the field work was done from '77 to '81?

A. The actual making of the map was done from '77 to '81 and then they got the maps in shape. The field work was done.

Q. When?

A. From '77 to '81, these are approximate dates.

Q. Do you think the map itself was not actually gotten out until 1881?

A. I can't give you the exact date of making the map but I do know that that general group of information was held up, was not published until later, because of lack of appropriations.

Q. If it appears that this was published in 1877, the field work must have been done before that?

626 A. Are you sure that it was 1877 that it was published?

Q. That is the testimony; Mr. Buck testified to that.

By Mr. Hanith:

Q. Any lines that are on that map were based upon the best information obtainable when the map was made, was it not?

A. Probably so. On the other hand, I can see how the man who made that map would be primarily interested in geological boundaries. I know of many cases where in cases of that sort, Reconnaissance map, mistakes would creep in of things they wouldn't be putting their attention to. I presume they thought they were getting it about right.

Q. When you say mistakes may creep in do you mean to sit here and say that because certain lines there do not agree with your idea now that that is probably a mistake?

A. I don't mean that, but I wouldn't want to swear in court here that that map is absolutely correct, because I don't know.

Q. Anything that your department gets out now it gets out upon the best information obtainable, does it not?

A. Yes, sir.

Q. Have you any reason to believe that your predecessors would do otherwise?

A. You can judge the character of the map——

Q. Answer the question. Have you any reason to believe that your predecessors would not act upon the best information obtainable?

A. No.

Re-direct examination:

By Attorney-General Owen:

Q. Your point is that it wasn't the purpose of that map to show the boundary line?

A. Yes, sir.

627 Q. But that it was issued for other purposes?

A. Yes, sir.

Q. And that the boundary line as indicated on that map was not carefully considered, or its exact location?

A. Yes.

Q. Do you observe that little neck of land right around here (indicating)?

A. Around Spirit Lake?

Q. Around Spirit Lake.

A. Yes, sir.

Q. Now, according to the coloring of that map where does that land belong, State of Wisconsin or State of Minnesota?

A. According to the coloring of the map it belongs to the State of Wisconsin.

Q. The State of Wisconsin never claimed that land, did it?

A. Not that I know of.

Re-re-cross-examination.

By Mr. Hanitch:

Q. Looking at this again and noting the line that your department has marked as state line?

A. Yes, sir.

Q. Does that line not show that the strip of land just referred to by the Attorney-General of Wisconsin is in Minnesota?

A. The line shows that but the color indicates it is Wisconsin, showing you that errors do creep into maps of this sort.

Q. That's a mistake of the printer, that isn't the mistake of the man who prepared the map?

A. That is a mistake of the man who proof-read the map, that he should have caught, and shows you that mistakes do occur in maps of this sort.

Q. If you were looking on this map to discover what was in the State of Minnesota and what was in the State of Wisconsin and you saw a line marked state line, would you say without a question that that strip of land was intended to be in Wisconsin?

A. I should probably, at first glance, follow the color scheme. If I examined it closer I would——

Q. If you saw the other line would you then say that the land was in Wisconsin?

A. I should think it was probably a mistake.

Q. Wouldn't you say that the line showed that it is in Minnesota?

A. Yes.

Q. Absolutely. There isn't any doubt about that, is there?

A. (No answer).

By Mr. Bailey:

Q. This yellow coloring here simply indicates geological formation?

A. Geological formation.

Q. Does it indicate state lines at all?

A. No.

Q. You have got green down here to indicate a different geological formation and red to indicate an entirely different one?

A. Yes, sir.

Q. That doesn't have anything to do at all with state lines?

A. Apparently not.

By Mr. Fryberger:

Q. Not only that, instead of its appearing that it is a mistake in a map, as you stated, this coloring, it appears just exactly the reverse, that that coloring was done purposely to show where the survey was made; isn't that true?

A. It was intended to show the general distribution of that one kind of formation.

Q. Take this in yellow, marked T-48. That is concededly over in Minnesota, isn't it?

A. Yes, sir.

629 Q. There is the state line, the boundary (indicating?)

A. Yes.

Q. You see it is marked yellow, don't you?

A. Yes, sir.

Q. Do you think that the man who printed that map intended to

show that that little strip marked T-48 concededly over the boundary line, was a part of Wisconsin?

A. Probably not.

Q. Just the same with reference to this little piece of land around Spirit Lake; isn't that true?

A. I presume so.

Q. Why did you say that that was a mistake?

A. I was misled by failing to see the boundary.

630 WILLIAM D. PENCE was called as a witness on behalf of the State of Wisconsin, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Attorney-General Owen:

Q. Mr. Pence, what is your vocation or occupation?

A. Civil engineer.

Q. And where are you engaged at the present time?

A. I am engaged with the Interstate Commerce Commission as a member of the Engineering Board in connection with the valuation of steam railway properties and other carriers' properties.

Q. Throughout the United States?

A. Throughout the United States.

Q. How long have you been with the Interstate Commerce Commission?

A. Since 1913.

Q. Where were you prior to that time?

A. From July 1906 to May 1913 I was engineer for the Wisconsin Railroad Commission and the Wisconsin Tax Commission.

Q. What was the nature of your duties while you were with those commissions?

A. With respect to the tax commission my duties pertained to the preparation of inventories and the making of reports on the cost of reproduction of the railroad properties of the State to be considered by that commission in connection with matters of taxation. With respect to the Railroad Commission the engineering duties included in addition to valuation matters all of the utilities, including the public utilities, municipal utilities; also included the matter of safety of operation of railways, steam railways and others, including signaling matters.

631 Q. Now, the Railroad Commission valued the railroads for the purpose of fixing freight rates?

A. The Railroad and Tax Commissions together.

Q. And the Tax Commission was required to place valuation on them for taxation purposes?

A. Yes.

Q. Were you the chief engineer in charge of this work?

A. Yes, I had the duties of chief engineer, and was called engineer of these two commissions.

Q. You were simply called the engineer?

A. Yes.

Q. Now, in pursuance of that work were you called upon to decide any time where the boundary line was between Minnesota and Wisconsin and the waters of the Bay of Superior or the Bay of St. Louis?

A. I was obliged to consider where that line was located in determining the limits of property that we had inventoried as Wisconsin property.

Q. How did that question first arise and when?

A. It first arose in so far as I personally was concerned, I am not at this moment speaking of the work of my predecessor, so far as I am personally concerned, it first arose in connection with the inventorying property of the electric properties of the state under the ad valorem act, and in going over the electric properties of the state late in 1906 I visited Duluth and Superior and then saw that in the initial inventorying of the electric railway in connection with these two cities it would be necessary to determine the point of division of this property as it passed over this state line that you have

632 asked about.

Q. Over what bridge did that property pass?

A. Over the Interstate bridge, so-called.

Q. And between what points?

A. Between Connors Point on the Wisconsin side and Rice's point on the Minnesota side.

Q. Now did you consider where your jurisdiction left off on that bridge?

A. Not at that time. I put it over until such time as I could go into the matter tentatively, and as soon as possible made a tentative determination of it so that the work might be accomplished satisfactorily, and by the time the inventory work was concluded, about a year subsequent to that time, a decision had been made as to the point of division. In this investigation we found that the bridge I speak of, the Interstate bridge, had been taxed, I think half and half, as between Duluth and Superior, indicating that perhaps the part of the bridge that had been taken as the physical division point for the property, and that was in a rough way in accord with the evidence which later on we gathered touching the same point.

Q. Your subsequent investigation satisfied you that that was about the right point of division of that bridge?

A. It is approximately the state line point. Possibly the state line taken in a searching sense might be a little bit closer the Wisconsin side than to the Minnesota side of that particular structure, I mean.

Q. That is the bridge between Rice's and Connors Point?  
633 A. Yes.

Q. Known as the Interstate bridge?

A. Yes.

Q. And over that bridge the Street Railway Company's tracks are built and also the tracks of the Great Northern Railway, are they not?

A. It's the Soo line. Two carriers pass over that bridge; one is



the Street Railway that I have already mentioned; the other is the Soo Railway; and we thought the division would presumably apply to the trackage. As a matter of fact, the trackage, so far as the steam road is concerned, belongs to the bridge, and possibly the same is true with regard to the electric line.

Q. Now did that give rise to the same question on the Northern Pacific bridge?

A. That question had been met on the Northern Pacific bridge in the original inventory of steam railway properties under W. D. Taylor. Mr. Taylor was not engineer for the Railroad Commission. The Railroad Commission was organized about the time that he resigned. Then in February, 1906, as I already stated, my duties pertained to both commissions. Mr. Taylor, in his original inventory work in the summer of 1903, under the 1903 ad valorem tax law, arranged with the railroads to have the various lines taken up, each road by its own officers, for the purpose of subdividing the property under what would be called appraisal districts or valuation sections, and in doing that it was necessary to accept some point as the division point at the state line, and so far as the Northern Pacific Road was concerned this part of the bridge nearest the Connors Point and so-called St. Louis Bay bridge, and on that basis a division was made by  
634 the railroad. The first appraisal was accepted by the state engineer and which subsequently on review was modified.

Q. Well now, what did you do with reference to determining where the state line intersected the Northern Pacific bridge?

A. The matter came to my attention on the Northern Pacific bridge—

Mr. Fryberger: We will object to this as incompetent, irrelevant and immaterial. His determination wouldn't be at all binding on anybody.

The Commissioner: It will be taken subject to the objection. Go ahead and answer the question.

A. The matter came to my attention as a direct point in connection with the reconstruction of the St. Louis Bay bridge, so-called, on the Northern Pacific line, which I believe was in 1908 and 1909. It came up primarily in connection with the protection of the draw spans on that bridge. The matter of jurisdiction as to the application of safety appliances, the interlocking of the draw bridges and protection against trains going into the draw came as a direct issue. The bridge was completed and a tentative permit was given, a preliminary permit to operate the interlocking plant, being, as I recall, early in May, 1909. This permit was tentative for the reason that the State of Wisconsin at that time did not have a specialist in signaling matters but was on the point of securing one; and one of the first pieces of work this signal engineer did was to complete the inspection of the interlocking plant on that bridge so that a final permit could be given out. Before that final permit was given  
635 a preliminary report was made to the Wisconsin Railroad Commission and to the Wisconsin Tax Commission in regard

to the uncertainties of this state line and the embarrassments arising from that as regards inventory matters and safety matters. Instructions were finally given to give a permit which the railroad insisted upon having, subject to later correction in the light of investigation which the legislature had then undertaken looking to the final settlement of this matter, and it is my understanding, has been my understanding until today, that this present hearing had some relationship to the particular thing that was then under discussion. I refer now to the appointment of a commission by the Minnesota legislature and the Wisconsin legislature which investigated both the Lake Pepin matter and this matter here.

Q. Well, then, your attention was called to the conflict of jurisdiction between the State of Wisconsin and the State of Minnesota?

A. Yes.

Q. In what year?

A. So far as I personally was concerned, beginning in 1906 and '7 and extending on through in an active way up to the time I left the service of the Railroad Commission, but making a special point of the safety appliance matter in 1909.

Q. Now it became rather acute in 1909 when they opened up the new bridge for traffic trains?

A. Yes, it did.

Q. And that arose from the fact that the Railroad Commission of the State of Wisconsin claimed authority to prescribe safety devices for the Minnesota draw?

A. None precisely that. It arose from the feeling on the  
636 part of the representatives of the State of Wisconsin that the investigations that were about to be made must be sufficiently searching and complete, that there could be no "twilight zone" so to speak, no uncertainty as to responsibility. Both at the south end and the north end of that bridge it was necessary to make one inspection for the entire structure, which involved the big danger in the event that the inspection should be of a perfunctory character, and it was to avoid the dangers arising from that condition that the Wisconsin Commission felt that it should insist upon going far enough to be sure that the inspections were as complete as the standard that the Wisconsin Commission demanded.

Q. Well, what was the purpose of these inspections?

A. Purpose of inspection was to protect the draw-bridge, protect trains going into the draw-bridge, through defective signal, defective operation of the draw.

Q. Was that before trains commenced to operate across there?

A. Trains for the time being, as I understand, were detoured around the Grassy Point bridge; I am not sure.

Q. What is this permit you spoke of?

A. It is the permission to operate the plant, and it implies an inspection.

Q. Well, under the Wisconsin law they can't operate trains on a new railroad until they get permission?

A. They will be obliged to stop trains and signal trains to cross a draw-bridge if they did not have that permission. In order to facili-

637 tate transactions, of course, they desire the permits after the signaling was installed.

Q. There are two draws in that bridge, are there not?

A. There are two draws.

Q. And there has never been any question but what the draw on the Wisconsin side is subject to the jurisdiction of the authorities of Wisconsin?

A. Not that I ever heard of.

Q. The conflict arose as to the respective authority of the two states over what is known as the Minnesota draw?

A. In so far as there was a conflict, yes.

Q. Which is on the Minnesota side of the river, of the bay?

A. It is adjacent to Rice's Point, yes, I understand.

Q. Yes, close to the Minnesota side of the bay, is it not?

A. It is, yes.

Q. Now in arriving at the territorial limits of your jurisdiction there, did you have any correspondence with the Railroad and Warehouse Commission of the State of Minnesota?

A. I had conference, both personally, and through my representative the signal engineer, with the engineer of the Minnesota Railroad and Warehouse Commission, and some correspondence.

Q. And personal interviews, meetings?

A. Yes, and inspection of the situation on the ground.

Q. Were you and he able to agree as to where the territorial boundary was between the two states on the bridge?

Attorney-General Smith: I object to that as incompetent, irrelevant and immaterial.

The Commissioner: You may answer.

638 A. We didn't take that subject up except in a casual way. As I recall, it was mentioned and discussed to some extent. I am sure that speaking for the Wisconsin side of the matter I felt that I had no authority whatever to go into any such agreement as that.

Q. No, but you did talk over with him where your jurisdiction ended and his began?

A. Yes, and we agreed that the inspection should be complete as regards the interlocking plant.

Attorney-General Smith: Move to strike that out as irrelevant, and immaterial.

Q. That's all right. You agreed on the interlocking plant but you didn't agree where the State of Wisconsin ended and the State of Michigan began?

A. I did not, but I would like to make it plain that I am not urging that the standards of the State of Wisconsin were any better than the standards of the Minnesota Warehouse and Safety Commission.

Q. What we desire to show here is that the properly constituted

authority of the State of Wisconsin claimed the boundary line over on the Minnesota pier?

A. Yes, sir.

Q. While Minnesota claimed it to be in the center of the bridge, didn't they?

A. That's it.

Q. And did you receive a letter from Mr. Jurgeson, engineer of the Railroad and Warehouse Commission of Minnesota, in which he stated that they considered the boundary line to be in the center of that bridge?

A. A letter was received by my assistant but Mr. Jurgeson, in so far as the subject was discussed that day on the ground,  
639 took the same position, and in fact we made an inspection of the bridge and found there a center mark, state line, on the bridge.

The Commissioner:

Q. Who put that there, do you know?

A. On account of its being a marker and apparently of a definite character somewhat like a monument, I undertook to ascertain and inquired about some and found,—my recollection is Mr. Jurgeson was at hand when this incident occurred,—found a tack on the bridge, a marker of some kind, a survey point, and I inquired of some railroad employees who were at hand as to what that point meant, and these men told me, as I recall their statements, that that was the state line point as established by the United States Engineer, and that the center had been set opposite that tack. I went to the office of the United States Engineer and made inquiry on that point. I was informed at once that a gentleman to whom I was referred on that matter and who was evidently familiar with the thing I was inquiring about, that they hadn't the slightest interest in the position of the state line; that the point referred to was undoubtedly a reference point, a survey point with respect to soundings or something of the kind, and that it was a misunderstanding on the part of the railroad people if they thought they had marked it as the state line. I then called on the Chief Engineer,—I think I first wrote the Chief Engineer relating to this question and subsequently called on him.

Q. You mean the Chief Engineer of the Northern Pacific?

A. Chief Engineer, Mr. W. L. Darling, of the Northern Pacific, with a view of determining the status of that sign. I was  
640 present during the time that Mr. Darling—I think it took an hour or more to do this—Mr. Darling investigated the status of a mark on a blue-print, evidently a pencil marking, an informal line, and he called in one person after another until finally he called his principal assistant engineer in and it was determined there, evidently to the satisfaction of Mr. Darling, that these informal markings on the blue-print had no status, had no data backing it, at least; and he erased the marking on the map while I was there, and stated that so far as their railroad was concerned the field was clear. As I re-

call it now he ordered the sign taken down. I don't recall that I afterwards made an inspection to see that the sign was removed but that is what became of my investigation.

Mr. Fryberger:

Q. Did you state where that point was on the bridge?

A. I recall it as roughly at the middle of the sheet of water.

Mr. Hanitch:

Q. Between the two approaches?

A. I am sure I can't answer that question with the precision that you wish. Offhand, I would say it was about halfway across the trestle.

Mr. Bailey:

Q. Did it appear to be an old sign?

A. As I recall it it was a new painted sign, but it might have been a renewal of an old one. I think it was on a new  
641 bridge and naturally they had put on new decks. I would like to add that I think the sign had been up there for a good while, from what I learned from Mr. Darling. Mr. Darling tried to find out the history of that point and sent to me correspondence with old-time employees and did what he could to assist me in getting data on the matter, and finally urged that it should be settled, not by the railroads but between the engineers of the two states, or the two states themselves, on which position I think he is correct.

Mr. Bailey:

Q. And his correspondence showed what?

A. It was inconclusive. One man seems to think one thing and one another, and neither was able to give the facts that I was seeking.

Q. But it had evidently been there for a long time?

A. So far as I could gain from his statement, it had been there a good while.

Mr. Hanitch:

Q. Did you state where your predecessor had fixed the point where Mr. Taylor—

A. My predecessor, Mr. Taylor, accepted the railroads' determination of it.

Q. That is, accepted this same point?

A. I suppose it was this same point, but within a year I found that he challenged it in a revision of inventory. That is to say, he reviewed his first year's work and made a correction which shows that he challenged it. I think he may not have gone as far as I did in my challenge.

(Direct examination continued by Attorney-General Owen :

642 Q. The State of Wisconsin didn't give a final definite permit to operate that bridge until the safety device prescribed by the Railroad Commission had been installed on the Minnesota draw?

A. It did not.

Q. And your position and the position of the Commission was that the jurisdiction of the State of Wisconsin extended to the bridge pivot of the Minnesota draw?

A. I haven't stated that before, but that point was reached in the initial contact of this problem at the Interstate bridge. I found evidence which convinced me that the Thalweg, the evidence of the thread of a stream traced definitely, carried you past, across the pivot part of the old Minnesota draw, which I believe is the northerly, that is to say the Minnesota end of the new draw, that is to say, if I am correct in my first statement, the present draw is completely in Wisconsin; the present Minnesota draw I am speaking of.

Q. What investigations did you make for the purpose of satisfying yourself as to where that boundary line was?

A. Having gone into the question of securing the Government maps and having seen reference to the state boundary line in the Nicollet map, I felt that it was important enough to know the full status of the Nicollet map to warrant a special investigation at Washington, and since I had in a way been challenged by the Wisconsin Commission, to be sure of my ground I requested permission to make this investigation at Washington and did so. As I examined that Nicollet map in the published document, it seemed to me that the reproduction of the lithograph was defective in the matter that is at stake in this present hearing, that is to say, as to what constitutes the river and what constitutes lake, and I wanted to find if I could whether Nicollet made his map by hearsay or by observation; in order to do that I traced up the history of Nicollet himself, and through the co-operation of chief engineers of the United States Army I was, after some difficulty in securing the permission, was able to get the permission, and after delay of a day or so, I think, the documents were dug out and the old chest was found under the eaves of the War Department building there at Washington. I was privileged, under close observation of the chief clerk of the chief of engineers, to examine the original personal notes of Nicollet. These documents I referred to are documents of very special historic interest quite beyond the limits of this rather narrow question we are speaking of here. I do not read French fluently enough to be able to make a translation of this, but I read it for sense and found that Nicollet actually was here. Furthermore, I traced his maps, which were evidently made under his personal direction. The original tracings are there in Washington at the present time, dated in 1841 or '42, possibly a little earlier, and I found that Nicollet in this particular trip when he visited the head of the lakes came up the St. Croix and through the head of Lake St. Croix across the head waters of the stream, crossed the divide to the Brule and down the

Brule to Lake Superior, thence east to the Apostle Islands, where I found he made barometric observations; goes over to the Apostle Islands, makes his astronomical and barometric observations, and then crosses through here up the St. Louis River and describes particularly the crossing of the divide, where he mentions the particularly unfavorable experience with mosquitoes as he goes through and so on across into the Mississippi drainage; his notes were annoyingly scant at the time he was visiting the place I was most interested in, but when we got through we felt sure from the examination of the notes that he had made a careful investigation of the features at the head of the lakes. The reproduction of the map was not so good as his originals I find there, but I think he had in mind the situation as it is. Of course, that is an inference, but that is a conclusion I drew from my investigation.

Q. His notes were written in French?

A. They are.

Q. What year was he through here?

A. I regret that I can't give that. I can't find my notes.

Q. His notes didn't disclose?

A. His notes do disclose, but I didn't make a note of it specially.

Q. From your observation you concluded that what is known as the Thaw Lake of the St. Louis River as it runs through St. Louis Bay and the Bay of Superior was the boundary line between the two states?

A. That is my conclusion, yes.

Q. Now, you said that this controversy was more acute in 1909 and down than at other times?

A. Yes.

Q. Do you know of the pendency of a suit in the United States Supreme Court commenced about that time to have determined the boundary line through Lake Pepin, being between the State of Minnesota and State of Wisconsin?

A. I know there was such suit, and when I learned of that I suggested to the chairman of the Wisconsin Railroad Commission and the chairman of the Wisconsin Tax Commission that it would be advisable to have the other state boundary, namely the one here between Duluth and Superior, taken up by the same representatives that I thought were going to engage for Wisconsin, and that subsequently took definite form.

Q. Your suggestion was that if the boundary line was to be settled in Lake Pepin that it also should be settled at the same time up here in the waters of St. Louis Bay and Bay of Superior?

A. Yes.

Q. Now, what resulted in the way of the appointment of a committee to confer with a committee from Minnesota, if you know?

A. A committee of the legislature was appointed, of Wisconsin, I mean, and I think a corresponding committee of the Minnesota legislature was appointed, and the request was made by the Attorney-General, yourself, of Wisconsin, and requisition was made for the services of the engineer of the Railroad and Tax Commission, by the Attorney-General of Wisconsin, and I was directed to report



to you for services in connection with the inspection trip which was made through Lake Pepin and also here at the head of the lakes up St. Louis River.

Q. And committees of Wisconsin and Minnesota did meet and confer upon these disputed boundary lines?

A. They did.

Q. In Lake Pepin and also in these waters?

A. Yes.

Q. Do you know when that was?

A. I am not sure of this, but I think it was 1911.

646 Q. And the inspection of these waters was at your suggestion?

A. Well, I assume that it was.

Q. That is, you originated the suggestion?

A. I assume that it arose from my suggestion to the chairmen of the two commissions, and so far as I know that was the fact.

Attorney-General Owen: Now this seems to be an appropriate time to offer in evidence a joint resolution of the two houses, the legislature of the State of Wisconsin providing for the appointment of a committee to confer with the similar committee to be appointed by the legislature of the State of Minnesota upon this boundary line controversy.

Mr. Fryberger: Those matters are all admitted in the pleadings, aren't they?

Attorney-General Owen: About our failing to agree?

Mr. Fryberger: I think so. I think the whole thing is set up in the answer about our failing to agree. I am sure they are.

647 M. LAMPERT was called as a witness on behalf of the State of Wisconsin, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Attorney-General Owen:

Q. Your name is what?

A. M. Lampert.

Q. Do you hold any official position in the State of Wisconsin?

A. I do.

Q. What is it?

A. Assistant Chief Clerk of the Land Department of the State of Wisconsin.

Q. Have you with you any of the original records on file in the office of the Commissioner of Public Lands of the State of Wisconsin?

A. I have.

Q. I will ask you whether you have a map of the original survey of an island in the St. Louis River that is a part of section 19, township 49 north of range 14 west?

A. I have.

Q. Does this page in the book you have before you—is it the plat or map to which you refer?

A. That is the map and plat.

Q. There are some figures on the left-hand margin there; what are they?

A. Those are meanders of township 49, range 13 west.

Q. I show you Wisconsin's Exhibit number 5 and I ask you if that is a true photographic copy of that survey and plat.

A. It is.

Attorney-General Owen: I offer exhibit number 5 in evidence.

The Commissioner: Received.

Attorney-General Owen: I offer in evidence Wisconsin's Exhibit number 6, which is a certified copy of the field notes of the survey of the land of which exhibit number 5 is a plat. Certified by the Chief Clerk of the State Land Office of the State of Wisconsin.

The Commissioner: Received.

Q. Have you the original plat of township 49 north of range 14 west?

A. Yes, sir.

Q. And that appears on this page of this book?

A. Yes, sir.

Q. Now I show you Wisconsin's Exhibit 7 and I will ask you if the page marked "A" of that exhibit is the correct photographic copy of the map appearing on that page?

A. It is.

Q. Now at the right-hand margin of the map on that page are a lot of figures; what do they purport to be?

A. Meanders.

Q. Of what?

A. Of this Bay of St. Louis.

Q. Shown on the map?

A. As shown on the map.

Q. On the same page?

A. Yes.

Q. Now I will ask you if page B of Exhibit 7 is a correct photographic copy of those figures?

A. It is.

Q. And pages A and B taken together, of Exhibit 7, is a complete photographic copy of that page of your plat-book in your office?

A. It is.

Attorney-General Owen: Offer Exhibit number 7 in evidence.

The Commissioner: Received.

Q. Now have you the original plat and survey of 49-15?

A. I have.

Q. I show you Wisconsin's Exhibit 8 and ask you if page A of that exhibit is a correct photographic copy of the plat?

A. It is.

Q. Of so much of township 49 north of range 15 west as indicated by your original record?

A. Yes, sir.

Q. The upper right-hand corner of this page has some figures. What are those?

A. Those are meanders of St. Louis River.

Q. As they relate to that plat?

A. As they relate to that plat.

Q. Now is page 2 of Exhibit number 8 a correct photographic copy of these figures?

A. It is.

Attorney-General Owen: I offer Exhibit number 8 in evidence.

The Commissioner: Received.

Mr. Fryberger: I would like to have the record show that they are duplicates of those already put in.

The Commissioner: I guess the meanders were not put in.

Q. Now, Mr. Lampert, these two plats show Big Island in the St. Louis River, do they not?

A. 49-14 and 49-15.

Q. Part of Big Island is in 49-14 and a part in 49-15?

A. Yes, sir.

Q. Now, has the State of Wisconsin been patented or granted any land on Big Island?

A. It has.

Q. How many lots or how many tracts of land?

A. Well, I couldn't say offhand there, but I have made a list of it.

Q. I show you Exhibit number 9 and ask you what that is?

A. That is a patent from the United States to the State of Wisconsin.

Q. Have you got the original of that patent here?

650 A. Of this one I don't know whether I have or not.

Q. Exhibit number 9 which I now show you is a photographic copy of the original patent on file in your office, from the United States Government to the State of Wisconsin, conveying to the State of Wisconsin lot numbered 2 in section 24, township 49 north of range 15 west, is it not?

A. It is.

Attorney-General Owen: Exhibit number 9 is offered in evidence.

The Commissioner: Received.

Q. Have you with you the original patent by which the United States Government conveys to the State of Wisconsin lot number 3, section 25, in township 49 north of range 15 west?

A. I think I have. Lot number 3 in section 25, containing 25 acres and 64 hundredths of an acre.

Q. Now, there are several other descriptions in that patent, are there not?

A. There are.

Q. And it is a large voluminous document?

A. It is.

Q. I show you Exhibit number 10 and ask you if that is a correct copy of so much of that patent as relates to lot number 3, section 49 north of range 15 west?

A. It is.

Q. That is a correct copy of that portion of the patent?

A. Of the patent.

Q. That doesn't copy all of the descriptions of the patent?

A. A great many other descriptions.

Attorney-General Owen: I offer Exhibit number 10 in evidence.

The Commissioner: Received.

Attorney-General Owen: I now offer in evidence Exhibit number 11, which is a certified copy of the original record of swamp lands, patent number 38529, issued by the State of Wisconsin to Anna M. Heugier, conveying lot numbered 2 in section numbered 24, township numbered 49 north of range 15 west.

The Commissioner: Received.

Attorney-General Owen: I now offer in evidence Exhibit number 12, which is a certified copy of the original record of swamp land, patent number 23245, by which the State of Wisconsin conveys to S. H. Clough lot number 3, section number 25, in township 49 north of range 15 west.

The Commissioner: Received.

Q. I now hand you a bound volume and ask you what that is?

A. That is the original field notes of townships 42 to 49 inclusive, range 13 west.

Q. They are part of the original records of the office of the Commissioner of Public Lands of the State of Wisconsin?

A. Yes, sir.

Q. And in your official custody?

A. Yes, sir.

Q. I will ask you to read into the record the field notes relating to section 28 of that township?

A. "North 53½ W., 14, in section 28. North 56 degrees W., 18.50, variation 11 degrees 20 minutes east, N. 50 degrees W., 25.50; N. 56 W., 22.50, N. 74 W., 7, S. 87 W., 6.90, S. 45 degrees W., 1.70, to meander post at mouth of St. Louis River, sand beach. May 28, 1853." This, of course, I might have read one chain and 70 links; that is what it means. "Meanders of bay beginning at mouth of St.

Louis River. For bearings see below, in section 28. S. 5 degrees W., 2, S. 59 degrees E., 11.50," I think I had better give you these bearings in there first. "White Pine 6 N. 76 E., 654 links. White Pine 7 S. 77 E., 735 links. S. 41 degrees E., 8.80, S. 82 degrees E., 3.50, S. 45 degrees E., 7.80, S. 36 degrees E., 4, S. 44 degrees E., 4, S. 56 degrees E., 13, S. 67 degrees E., 7.80, N. 88 degrees E., 2.40, S. 26 degrees W., 2, N. 71 degrees E., 2, S. 62 E., 6.60, S. 52 E., 7.60, S. 38 E., 1.60, S. 55 E., 2.40, S. 56 E., 14, N. 62 E., 1.40, S. 16 E., 1.60, S. 60 E., .78, to line of sections 27 and 28 sandy beach, low sandy shore.

Q. Now can you locate that on your plat book of that section?

A. Yes, sir.

Q. And that section is the end of Wisconsin Point, is it not?

A. There is section 28, (indicating).

Q. And that is the end of Wisconsin Point?

A. Yes, sir.

Q. Next to the Superior entry?

A. Yes, sir.

Q. Who was the surveyor that surveyed that?

A. George R. Stuntz.

Q. And you have just read from his original field notes?

A. Yes, sir.

Q. On file as part of the records of the Commissioner of Public Lands of the State of Wisconsin?

A. Yes, sir.

Q. Now, Mr. Lampert, did you compile from the records in your office and bring with you a list of swamp lands?

A. Yes, sir.

Q. In township 48-15, 49-11, and 49-14 that had been conveyed to the State of Wisconsin by the United States Government?

A. Yes, sir.

653 Q. I will ask you to read into the record a list of those lands.

A. The following lands within townships named have been conveyed by patents of the United States to the State of Wisconsin: "Lot 6 section 9 township 48, range 15 west. The date of the patent of the United States to the state was January 25, 1872. Lot 4 in section 11, township 48-15 west, patent from the United States to the state, January 25, 1872, the southeast of the southeast of section 21, town 48, range 15 west. The patent from the United States to the State of Wisconsin is dated January 25, 1872. The northwest quarter of the northwest quarter of section 27, township 48 north of range 15 west was patented to the state on January 25, 1872. The northeast quarter of the southeast quarter of section 35, township 48 north, range 15 west, was patented to the state November 14, 1881. Lot 2, section 30, township 49, range 14 west was patented to the state May 15, 1862. Lot 2, section 24, township 49, range 15 west was patented by the United States to the State of Wisconsin January 10, 1889. Lot 3, section 24, township 49 north, range 15 west was patented to the State of Wisconsin on January 25, 1872. The lands described below were claimed by the state as swamp under act of September 28, 1850. The claim was recognized by the United States but before selections were made the lands were conveyed by the United States to private parties. Therefore other lands in lieu of those were conveyed, and on November 21, 1881, conveyed to the state by patent pursuant to acts of Congress, March 2nd, 1855, and March 3rd, 1857. Lot 3 in section 19, township 49 north of range 15

654 west was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 1, section 19, township 49, range 15 west was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 3, section 19, township 49, range 15 west was patented by United States to the State of Wisconsin November 21st, 1881. Lot 4, section 19, township 49, range 15 west

was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 5, section 19, township 49, range 15 west was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 6, section 19, township 49, range 15 west was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 6, section 19, township 49, range 15 west was patented by the United States to the State of Wisconsin November 21st, 1881. Lot 1, section 19, township 49, range 15 west was patented November 21st, 1881."

Q. Is that all?

A. No, I have an idea there is an error here. That is the trouble. I am sure that these sections should have been as I would read them now. The first one is right, lot 3 section 19.

Q. This is all in section 49-15?

A. Yes.

Q. Now then, read that down there (indicating)?

A. "Lot 3, section 19, lot 1, section 29, lot 3, section 29, lot 4, section 29, lot 6, section 29, lot 1, section 30, lot 1, section 31, lot 9, section 31, lot 10, section 31, lot 1, section 32.

Q. What range is this in?

A. This is in 15 west.

Q. It can't be, I guess you are wrong. What is that that I hand you? (Handing witness a book.)

A. That is the survey of the exterior lines of several townships and ranges of the survey made in 1852 by George R. Stuntz.

Q. The book contains the field notes?

A. The field notes, exterior lines, the township lines.

Q. What is that on the back of it?

A. That is a diagram, a sort of a map made by the surveyor, I should judge, of St. Louis River and Lake Superior and Fond du Lac.

Attorney-General Owen: I offer the map appearing on the cover of these field notes to which Mr. Lampert has just referred, in evidence, and I ask the privilege of substituting a copy of this map for the original.

Mr. Fryberger: Photographic copy?

The Commissioner: Can't you make a tracing of that, Mr. Lampert?

The Witness: Yes.

Mr. Fryberger: Your tracing will be more distinct than the original.

The Commissioner: Make a copy of it and send it back.

Mr. Fryberger: We would like to have this understanding, Attorney-General Owen, that if when the copy comes back we want the original to compare it with, we would ask that you have the original returned so that we can compare it.

Attorney-General Owen: Mr. Lampert, you return the copy with that book, to me, and I will take possession of the original book and return it to the office.

Mr. Fryberger: You haven't even marked that, have you, General?

Attorney-General Owen: No.

Q. Are there any identification marks?

A. Number 224.

656 Attorney-General Owen: I will have it marked. (Book marked Wisconsin's Exhibit 13.)

Q. I show you Exhibit number 14 and ask you what that is?

A. That is a plat of two islands or rather lots, map of fractional lot number 9 in section 29, and fractional lot number 1, in section 20, township 49, range 13 west.

Q. Is that part of the original records on file in the office of the Public Land Commissioner of the State of Wisconsin?

A. Yes, sir.

Attorney-General Owen: I offer that in evidence. I want to withdraw that and substitute a photographic copy.

The Commissioner: Map is received with leave to substitute photographic copy.

Q. Now, Mr. Lampert, what is this?

A. That is the original plat of township 49, range 13 west.

Q. Part of the original records on file in your office?

A. Yes, sir.

Attorney-General Owen: I offer that in evidence and ask that leave be given to file a photographic copy of it.

The Commissioner: Received in evidence with leave to substitute a photographic copy for the original.

Mr. Bailey: I see on the left-hand side of this page "For plat St. Louis River or Bay of Superior, see large plat-book, page 73." And ask you whether this Exhibit 14 is the copy of what is referred to?

The Witness: That's what it is.

657 By Attorney-General Owen:

Q. That isn't a copy, but that is what is referred to?

A. That is what is referred to; that is the original. (Page referred to marked Wisconsin's Exhibit 15.)

Q. Now, find 48-15; that shows the islands up in the St. Louis River, does it?

A. Yes, sir.

Q. I refer you to Exhibit 16 and ask you what that is?

A. Official plat of township 48 north of range 15 west.

Q. The original records on file in your office?

A. Yes, sir.

Attorney-General Owen: I offer that in evidence.

The Commissioner: Wisconsin's Exhibit 16 received in evidence with leave to substitute photographic copy of the page for the original.



Cross-examination.

By Mr. Bailey:

Q. The George R. Stuntz who made this survey and plat marked Exhibit 5, of this little island, is the same George R. Stuntz who made the survey and plat marked Exhibit 7?

A. Yes, as we understand it.

Q. And he made the survey of the township in 1854 and the survey of the island in 1893, didn't he?

A. Yes, one of them he made in 1893, 49-14 west.

Q. The same George R. Stuntz made both surveys?

A. Yes.

Q. 1852; is that right here?

A. 1852, yes.

Q. And this lot 2 shown about in the middle of Exhibit 5 is the same as lot 2 shown here about the middle of the left of  
658 Exhibit 7?

A. Yes, sir.

Q. So that in the earlier days it showed no island at all, and in the latter surveys found this swamp island. Doesn't show any island at all here?

A. No.

Q. And calls these waters here the Bay of St. Louis in the earlier survey and has it marked "River" in the other survey?

A. Yes.

Q. You don't understand, Mr. Lampert, that this Exhibit 5 purports in any sense to be a survey of any channel of the river, do you?

A. No.

Q. And the points from which he took his bearings are all points off of any channel of the river, so that the channel is simply drawn in as a sort of a diagram of it, not with reference to any particular point?

A. I couldn't answer that question.

Q. You are familiar with surveying, I take it?

A. Well, very little.

Q. Doesn't that appear to be true from the knowledge that you have?

A. It appears to be that way, yes; that is the way I understood it.

659 Received August 11, 1917. D. E. Roberts, Commissioner.

FEDERAL BUILDING, SUPERIOR, WISCONSIN.

THURSDAY, August 9, 1917.

The taking of testimony was resumed before the Commissioner, Hon. David E. Roberts, at the above time and place.

Present: The Commissioner, Hon. David E. Roberts.

On behalf of the State of Minnesota, Hon. Lyndon A. Smith, Attorney-General of the State of Minnesota; Mr. W. D. Bailey, Mr. H. B. Fryberger, and Mr. Louis Hanitch.

On behalf of the State of Wisconsin, Hon. Walter A. Owen, At-

torney-General of the State of Wisconsin, Mr. Horatio V. Gard, Mr. Lyman T. Powell, and Mr. T. T. Hudson.

The following testimony was introduced and the following proceedings were had, to-wit:

(Papers marked Wisconsin Exhibits 16½, 17, 18, 19, 20, 21, 22, and 23.)

Attorney-General Owen: I offer in evidence Wisconsin Exhibit 16½, being a certified copy of a letter written to Governor Robert M. La Follette of Wisconsin by D. G. Gaillard, Captain of Engineers, U. S. A., at Duluth, Minnesota, under date of April 1, 1905, calling attention to conditions existing in the St. Louis River.

Mr. Fryberger: Where is the blue-print he refers to?

Attorney-General Owen: I do not know.

(There was no objection, and Wisconsin Exhibit 16½ was received in evidence.)

660 Attorney-General Owen: We offer in evidence Wisconsin Exhibit 17, being a letter written by Mr. Gaillard to the Governor of the State of Minnesota, covering the same subject mentioned in Wisconsin Exhibit 16½.

Mr. Fryberger: Of course so far as it is claimed that those men had any authority to fix a boundary line, we would object to it as incompetent, irrelevant and immaterial.

Attorney-General Owen: We do not claim anything like that. We do not claim that any man on earth has the power to fix that line. He just says what he thought about it.

The Commissioner: Wisconsin Exhibit 17 is received in evidence, subject to the objection of the State of Minnesota.

Attorney-General Owen: I now offer in evidence Wisconsin Exhibit 18, being a certified copy of a joint resolution of the Legislature of the State of Wisconsin, providing for the appointment of a committee to confer with a similar committee appointed by the Legislature of the State of Minnesota, upon boundary line controversies between the states.

Mr. Fryberger: This is a joint resolution?

Attorney-General Owen: Yes, providing for the appointment of the committee.

Mr. Fryberger: We have no objection to Exhibit 18.

The Commissioner: Wisconsin Exhibit 18 is received in evidence.

Attorney-General Owen: I now offer in evidence Wisconsin Exhibit 19, being certified copy of the report of the Legislative  
661 committee of Wisconsin appointed to consider the boundary line questions with a similar committee from Minnesota.

Mr. Fryberger: No objection to Exhibit 19.

The Commissioner: Wisconsin Exhibit 19 is received in evidence.

Attorney-General Owen: Now, gentlemen, will you stipulate that the committee appointed by the Legislature of the State of Minnesota to confer with the committee appointed by the Legislature of the State of Wisconsin upon matters in controversy concerning the boundary line between the two states in the waters of St. Louis Bay and Superior Bay and Lake Peppin, made a report to the Legis-

lature of the State of Minnesota on the 18th day of February, 1913, identical with Exhibit 19?

Attorney-General Smith: I would like to check it over. I think it is; that is my understanding.

Mr. Fryberger: It is your understanding that they are identical, isn't it, General Owen?

Attorney-General Owen: We got them up together, I think.

Attorney-General Smith: General Owen, the committees' report seems to be identical excepting as to the last paragraph, and that last paragraph is different in the Minnesota report from what it is in yours.

Attorney-General Owen: What is it—an additional paragraph?

Attorney-General Smith: No, it is a substitute.

Attorney-General Owen: Well, cannot you stipulate that they are substantially identical?

662 Attorney-General Smith: I will say they are the same except as to the last paragraph, and which paragraph in the Minnesota report is as follows—and read it right in; it is only half a page.

Attorney-General Owen: All right. Now, General Smith, I understand you are willing to stipulate that the Minnesota committee made a report to the Legislature of the State of Minnesota identical with the report made by the Wisconsin committee, as shown by Wisconsin Exhibit 19, except the last paragraph, which in the Minnesota committee report reads as follows: "Your committee has labored diligently and earnestly to effect an understanding with the committee on the part of Wisconsin as to the disputed boundary lines, which might be made the basis of an agreement between these sister states; there is a large area of land upon which great improvements have been made along the St. Louis, Spirit Lake, St. Louis Bay, and Superior Bay, which lie within what we contend is Minnesota territory, which is claimed by Wisconsin. This property is both extensive and valuable, and your committee could not agree to recommend any arrangement which would place these great properties belonging to our citizens under the sovereignty of another State; and while we regret that an agreement could not be reached as to the disputed boundary line, yet we believe that if uniform and reciprocal laws are enacted by the two states along the lines of

663 the conclusions of the Joint Commission that much practical good will have been accomplished.

Respectfully submitted,

THOMAS KNEELAND,  
GEO. A. MCKENZIE,  
ANDREW ANDERSON,  
MANLEY L. FOSSEEN,  
GEO. H. SULLIVAN,

*Committee."*

Attorney-General Smith: Yes.

The Commissioner: The stipulation is entered upon the record and the exhibit is received.

Attorney-General Owen: I now offer in evidence Wisconsin Ex-

hibit 20, being a certified copy of a portion of the charter of the Village of Duluth, as found in Sections one and two of Chapter one of an act of the Legislature of the State of Minnesota, entitled 'An Act to Define Boundaries of and establish Municipal Government for the village of Duluth,' the same being Chapter 11 Special Laws of Minnesota for 1881, approved March 8, 1881, and Acts amendatory thereof.

Mr. Fryberger: We object to it as wholly incompetent, irrelevant and immaterial.

The Commissioner: The exhibit is received subject to the objection.

Attorney-General Owen: I now offer in evidence Wisconsin Exhibit 21, being a certified copy of a portion of the charter of the City of Duluth, the same being Section 1 of an act of the Legislature of the State of Minnesota, entitled, 'An Act to Define the Boundaries of and Establish Municipal Government for the City of Duluth,' the same being Special Laws of Minnesota for 1887, Chapter 2, page 57, approved March 2, 1887, and acts amendatory thereof.

Mr. Fryberger: We have the same objection to Wisconsin Exhibit 21 as to Wisconsin Exhibit 20.

The Commissioner: The exhibit is received in evidence subject to the objection.

Attorney-General Owen: I now offer in evidence Wisconsin Exhibit 22, the same being a certified copy of a portion of the City Charter of the City of Duluth, the same being Section 1 of Chapter 1 of the Duluth City Charter, adopted by the qualified voters of the City of Duluth at an election held in said city February 6, 1900, in pursuance of the provisions of Chapter 351 of the Laws of the State of Minnesota for the year 1899.

Mr. Fryberger: Same objection to Wisconsin Exhibit 22 as to Exhibits 20 and 21.

The Commissioner: The exhibit is received in evidence subject to the objection.

Attorney-General Owen: I now offer in evidence Wisconsin Exhibit 23, being a certified copy of a portion of the charter of the City of Duluth, the same being Section 1 of Chapter 1 of the Charter of the City of Duluth, adopted by the electors of the City of Duluth on December 3, 1912, pursuant to the provisions of Chapter 238 Laws of Minnesota, 1903, and pursuant to Article 4 of Section 36 of the Constitution of the State of Minnesota.

Mr. Fryberger: Same objection as to Exhibit 23 as last above made.

The Commissioner: The exhibit is received in evidence subject to the objection.

Attorney-General Owen: I now offer in evidence section 2 of chapter 2 of the Charter of the City of Superior, which was enacted by the Legislature of the State of Wisconsin as Chapter 152 of the Laws of 1889.

The Commissioner: Will you read that into the record?

Attorney-General Owen: Yes.

Mr. Fryberger: The whole chapter?

Attorney-General Owen: No, just that section.

Mr. Fryberger: Same objection as last above.

The Commissioner: The offer will be received subject to the objection made.

Attorney-General Owen (reading): "Section 2. The following described territory shall constitute and be the City of Superior: Beginning at the southeast corner of Section number 1 in Township 48 north, of Range 13 west, in the County of Douglas and State of Wisconsin; running thence west on the section line to the southwest corner of Section 6, in Township 48 North, of Range 14 West; thence running north along the township line to the intersection of said line with the state line between the states of Wisconsin and Minnesota; thence following said state line down the river St. Louis and through St. Louis Bay and through the bay of Superior to the mouth of the St. Louis River, between Minnesota and Wisconsin Points, and thence eastwardly to the meander line on the northernmost point of said Wisconsin Point; thence along said meander line on Lake Superior and following the shore line of said lake southeasterly and easterly to the section line on the east side of Section 36, in Township 49 North, Range 13 West; thence south to the place of beginning."

Attorney-General Owen: I now offer in evidence section 2 of Chapter 124 of the Laws of the State of Minnesota for the year 1891, entitled 'An Act to Revise, Consolidate and Amend Chapter 152 of the Laws of 1889,' Entitled 'An Act to Incorporate the City of Superior, which Section 2 I will read.

Mr. Fryberger: Same objection.

The Commissioner: Received subject to the objection.

Attorney-General Owen (reading): "Section 2. The following described territory shall constitute and be the City of Superior: Beginning at the southeast corner of Section 1 in Township 48 North, Range 13 West, in the County of Douglas and State of Wisconsin; running thence west on the section line to the southwest corner of Section 6, in Township 48 North, of Range 14 west; thence running north along the township line to the intersection of said line with the State line between the states of Wisconsin and Minnesota; thence following said state line down the river St. Louis and through St. Louis Bay and through the Bay of Superior to the mouth of the St. Louis River, between Minnesota and Wisconsin Points; thence easterly to the meander line on the northernmost point of said Wisconsin point; thence along said meander line on Lake Superior and following the shore line of said lake southeasterly and easterly to the section line on the east side of section 36, in Township 49 North, of Range 13 West; and thence south to the place of beginning."

Attorney-General Owen: I now offer in evidence a portion of page 224 of Senate Documents, First Session, Thirty-third Congress, Volume 1, 1853-4, being part of the report of the Surveyor-General for the states of Iowa and Wisconsin.

Mr. Fryberger: I would suggest that if any part of it goes in, it

should go in from the explanatory paragraph preceding, down to the word "Swamp land" on page 225, to get the whole sentence.

668 Attorney-General Owen: I will read it all if you want me to.

Mr. Fryberger: Aside from that we have no other objection than the one last above made.

The Commissioner: The portion of the document which is offered may be received subject to the objection made.

Attorney-General Owen: I will read all that has been suggested by counsel on the other side.

(Reading): "It may not be out of place at this time to give a brief description of the country through which this boundary line passes, especially as the increased attention it is at present receiving is in a great measure attributable to your last able report, it being very generally referred to in communications received at this office, requesting more particularly information in regard to the character of the district which was then only partly surveyed.

"That portion of the boundary line defined as the St. Louis River from its mouth (which is in Township 49 of Range 13) to the first rapids above the Indian village, being peculiar, I will first describe:

"The mouth of the river is about one-fourth of a mile wide, and is formed by a narrow sand-bar projecting from the north shore of the lake about seven miles. This bar is uniform in course, and varies from ten to forty chains in width. The bar on the east side of the

669 river is like that on the west, but is only one and one-half miles in length. During the last summer the water in the channel over or through the bar was about seven feet deep,

but the entrance is crooked and difficult of access during the heavy northeast storms which at certain seasons prevail. Once inside, however, vessels are safe, as the river widens into a bay, about eight miles long and one and a fourth miles wide. The shores are mostly clay banks, with narrow sand-beach for about six miles, when the beach disappears, and small bays or inlets extend from the main body to distances varying from five chains to two miles.

"At the distance of nineteen miles up the river is situated the Indian village of Fond du Lac, on the north side of the river, containing fifty or sixty cabins and lodges, three or four good houses, two trading posts, and a mission building. On the Wisconsin side, opposite this village, several families of French and Indians live in a half-civilized manner. On the same side of this bay, from Pokegamon Bay to the rapids, the country is hilly and covered thickly with timber, the most valuable kinds of which are white cedar, spruce and white pine. The north side is bounded by a range of mountains, that rises from eight hundred to a thousand feet above the level of the lake, and within from one to three miles from the beach. This range extends parallel to the lake shore, as far  
670 east as Pigeon River, and bears north fifty-five degrees east.

"From the best information obtainable, I am inclined to believe that this is as good a mineral range as is to be found on Lake Superior. Specimens of native silver and copper have been found

and exhibited, but no mines have been opened up or worked in this locality, that I am aware of.

"From the starting point in the rapids of the river to the sixteenth mile post on the boundary, the country is generally level, clay tablelands, elevated about three hundred feet above the lake, and covered with a valuable growth of white pine, cedar, birch and spruce; and is well supplied with streams, branches of Left-hand River, which are of sufficient size to float logs and furnish water power for the manufacture of lumber. The summit level between the waters that flow into the lake and those that flow into the Mississippi River is crossed by the boundary on the sixteenth mile; and on the south side of this the country changes in formation; the deep red clay disappears, and sand is the prevailing soil. The surface is more irregular, and magnetic disturbances are more frequent and extreme, rendering the use of the plain compass impracticable. From this point to the River St. Croix the boundary passes through a succession of swamps which are filled with rich deposits of peat. The timber, as a general thing, is not of sufficient size to be valuable, except in the  
671 vicinity of the St. Croix, where the country is covered with valuable groves of white pine. The monument on the St. Croix River stands two and a half miles above Yellow Pine Creek and about four miles below the mouth of the Namekagon River.

"The survey of the boundary between the State of Iowa and the territory of Minnesota has been completed, and the maps and field notes of the same, with the necessary accounts and vouchers, have been forwarded to your office. As the field work was completed and full details furnished by my predecessor last season, anything further on this subject is unnecessary."

Mr. Fryberger: Who was that? Was that the surveyor-general of the United States?

Attorney-General Owen: Report of the Surveyor-General of Iowa and Wisconsin. I presume that was made to the Surveyor-General of the United States.

Mr. Fryberger: What was his name?

Attorney-General Owen: Warner Lewis.

Mr. Fryberger: 1854?

Attorney-General Lewis: 1853. This is dated at Surveyor-General's office, Dubuque, October 21, 1853, and this seems to be a document accompanying the President's message.

Attorney-General Owen: Now I will introduce in evidence  
672 a map to be found in Senate Documents, First Session Thirty-Third Congress, which shows Township 49 North of Range  
13 West.

The Commissioner: By whom does the map purport to have been made?

Attorney-General Owen: Public surveys of the State of Wisconsin and territory of Minnesota; it is an official map, made by Warner Lewis, surveyor general.

The Commissioner: And the date? Is there a date on the map?

Attorney-General Owen: It is dated October 21, 1853. I have a



photographic copy of that map here, which I desire to substitute in lieu of the original.

The Commissioner: Let counsel on the other side see the photographic copy. Is there any objection, gentlemen, to the offer in evidence of the map?

Mr. Fryberger: No objection.

The Commissioner: The map is received in evidence.

Attorney-General Owen: I introduce this photographic copy.

Mr. Fryberger: There is no objection to that photographic copy. It is not as clear as it might be, that is all.

The Commissioner: The photographic copy is received in evidence in lieu of the original, and the same is marked Wisconsin Exhibit 24.

Mr. Gard: We now offer in evidence a map known as a Map of the Hydrographical Basin of the Upper Mississippi River, made  
673 by I. N. Nicollet, published as Document Number 52 of the House of Representatives January 11, 1845, and also page 128 of the same document number 52.

The Commissioner: Any objection to the map, gentlemen?

Mr. Fryberger: We have no objection.

The Commissioner: There being no objection, the map and the page mentioned may be received in evidence. Do you desire to substitute a photographic copy?

Mr. Gard: We ask to substitute this photographic copy for the original.

(The photographic copy was marked Wisconsin Exhibit 25.)

The Commissioner: The photographic copy, marked by the reporter Wisconsin Exhibit 25, is received in evidence, in lieu of the original. Do you desire to read into the record the page which you offer?

Mr. Gard: I would like to have the reporter copy the page into the record.

Page 128 of the document offered is in the words and figures following, to-wit:

Places of observation.	Altitudes above the Gulf of Mexico.	North latitudes.	West of Greenwich.			Authorities, &c.
			Longitudes in time.	Longitudes in arc.		
	<i>Feet.</i>	° ' "	<i>h. m. s.</i>	° ' "		
Madeleine Island, the trading-house and level of the lake (depth of Lake Superior, according to the British Admiralty survey, 792 feet),.....	620	46 47 10	6 3 34	90 53 30	Nicollet.	
St. Louis river, the trading-house called Fond du Lac, but about 24 miles up the stream from the true Fond du Lac.....	.....	46 39 50	6 9 1.33	92 15 20	do.	
Culmination of the grand portage, on St. Louis river..	1,066	.. ..	.. ..	.. ..	do.	
Upper end of the grand portage, on St. Louis river....	984	.. ..	.. ..	.. ..	do.	
Head of the Long Rapids, on St. Louis river.....	.....	46 49 42	6 9 40	92 25 0	do.	
East Savannah river, the mouth.....	1,264	.. ..	.. ..	.. ..	do.	
Dividing-ridge between East and West Savannah rivers .....	1,264	.. ..	.. ..	.. ..	do.	
Portage between Wissakude, or Burnt Wood river, and the head of St. Croix river, emptying into the Mississippi .....	956	.. ..	.. ..	.. ..	do.	
Porcupine hills. (Wisconsin mountain,) 330 yards above the lake.....	1,610	.. ..	.. ..	.. ..	British Admiralty Survey.	
675						
Head of the Kettle rapids, or Akkik rapids, on St. Croix river .....	.....	45 54 40	.. ..	.. ..	Nicollet.	
Falls of St. Croix river.....	.....	45 30 10	6 10 40	92 40 0	do.	
Kettle-kittigan lake, Lac Vieux Desert, south Island..	.....	46 7 31	5 57 20.87	89 20 13	Capt. T. J. Cram.	
Kawashdjwong river, (Montreal river,) the mouth...	.....	46 23 0.5	6 2 58	90 44 20	do.	
the head .....	.....	46 18 38	6 1 38.52	90 24 38	do.	

(A short recess was here taken.)

Mr. Gard: In connection with the offer of page 128 of the House of Representatives' document just offered, I want to offer in evidence also page 128 of Senate's Document Number 237 of the Second Session of the Twenty-sixth Congress, being part of Volume 5, Part 2, of the session of 1840-41, entitled, "Report Intended to Illustrate a Map of the Hydrographical Basin of the Upper Mississippi River, made by I. N. Nicollet, while in employ under the Bureau of the Corps of Topographical Engineers. February 16, 1841."

Mr. Bailey: Is that the same thing?

Mr. Gard: Exactly the same thing; that corresponds to page 128 of the House of Representatives' document just offered.

676 Mr. Bailey: In other words, the report was identical to both Houses?

Mr. Gard: Yes. Published at different times, however.

Mr. Bailey: In that connection we want to offer a paragraph—or will you offer it?

Mr. Gard: Yes, I will offer it at your request, or you can do so, whichever you like. At the request of counsel for Minnesota we also offer in evidence a paragraph from page 108 of Senate Document 237, and will read the same into the record, as follows:

"There remains still a short portion to the west of Pagadewan river, which neither of us has explored. But a traveller cannot see everything; he has often to yield to circumstances which he cannot influence or control.

"In point of fact, there are, in this northern part of the United States, portions of country more unknown now than they were formerly. For example: the districts watered by the Vermillion Lake river and St. Louis river, were, from time immemorial, the way of communicating with the interior as long as the Indian trade was in the hands of the French or the British. But, since the United States have taken possession of the territory south of Rainy River, the intercourse between the Americans and the British traders has entirely ceased. That small region is still a complete wilderness,  
677 very little known, and of difficult exploration. It is now laid down from the best information that the Indians could furnish, or the surveys for settling the north boundary could procure. The same may be said of Otter-Tail Lake and the sources of the Red river of the North, that are in a country formerly occupied by Indian traders, whom the turbulence of the Chippewas has forced away. As it is still a permanent theatre of the wars of these last with the Sioux, the guides to be procured from either of these tribes refuse to conduct one thither, lest they themselves might fall in with enemies."

(Page 108 of Senate Document 237 is in the same words and figures as page 128 of House of Representatives' Document Number 52, set forth in this typewritten record at page —.)

The Commissioner: Now the pages mentioned are received in evidence, subject to the objection.

Mr. Bailey: I take it the same page and same language appears in the House of Representatives' report too?

Mr. Gard: Yes, I so understand it.

678 HIRAM HAYES being duly sworn as a witness on behalf of the State of Wisconsin, testified as follows:

Direct examination.

By Mr. Gard:

Q. Colonel Hayes, you live in the City of Superior?

A. Yes, sir.

Q. Came to Superior in 1854?

A. Yes, sir.

Q. What part of the city did you settle in at that time?

A. What is now called East End.

Q. And have lived there continuously since, except for a short time that you occupied a homestead over near Oneota?

A. Yes, sir; that was a pre-emption.

Q. And you have been at the head of the lakes continuously since 1854, except when you were absent in the Civil War?

A. Yes, sir.

Q. How long were you absent?

A. About six years.

Q. When did you enter the Civil War?

A. 1862.

Q. As a Union soldier?

A. Appointed as Captain and Assistant Quarter-master.

Q. And when you came out what was your rank?

A. Lieutenant Colonel.

Q. You are now a member of the Library Board of the City of Superior?

A. Yes, sir.

Q. How long have you been a member of the Library Board?

A. About ten years.

679 Q. You have held various other offices in the city of Superior, have you, in the old town of Superior?

A. Yes, sir.

Q. I believe you were formerly judge of St. Louis County, Minnesota, at one time, were you not—County Judge?

A. Yes, sir.

Q. That was when you had your homestead at Oneota?

A. It was when I had my pre-emption.

Q. What year was it that you were appointed County Judge of St. Louis County?

A. 1857 or '8.

Q. You first settled at Superior, you say, in 1854?

A. Yes, sir.

Q. Did you come with the surveyors for the proprietors of Old Superior, now East End?

A. I did.

Q. What was the purpose in coming to Superior at that time?

A. To settle here and grow up with the town.

Q. When was the first white settlement at Superior?

A. It commenced in 1853, and continued from then on.

Q. Is that the first settlement that was made at the head of Lake Superior?

A. It was.

Q. Tell us something about the conditions that surrounded the head of the lakes at that time, with reference to settlement.

A. The townsite of Superior, the site of the present City of Superior, was a dense forest—pine, birch, spruce, tamarack, cedar, and so on; the north shore was a wild and rocky coast, unsettled, uninhabited except by Indians, then Indian territory. There was no communication with civilized life except by lake and what was called the Military road cut in 1854 or '55 or '56, along there, from  
680 here to St. Paul, via Taylor's Falls, and then the route to Sandy Lake, the old Indian route.

Q. Where is Sandy Lake?

A. In what county of Minnesota I do not know, but it is west of the reaches of the St. Louis River, the way of communication then to the Mississippi.

Q. Where was the nearest white settlement to the head of the lakes at that time, outside of Superior?

A. Taylor's Falls, Minnesota; Ontonagon and Marquette, in Michigan.

Q. How did you travel to get there, Colonel, to the head of the lake?

A. Walked.

Q. From where?

A. From Taylor's Falls up to St. Croix, and thence on a rough trail cut out to here, cut out in the winter of 1853 or '4.

Q. Did the party of surveyors come with you?

A. Yes, sir.

Q. How many were there in the party?

A. Half a dozen, with packers.

Q. They represented what is known now as the proprietors of Old Superior, did they?

A. They came to lay out a town here, now called Superior, at the instance of the proprietors.

Q. Where did those proprietors live, principally?

A. St. Paul, Washington, and at Superior.

Q. Name some of them, or all of them, if you can.

A. There was W. W. Corcoran—

Q. Who was he, Colonel?

681 A. He was a banker in Washington. James Stinson.

Q. Who was Mr. Stinson?

A. Well, he was a rich man, an owner of lands and property in various places, a real-estate operator. There was George E. Nettleton, an Indian trader; W. A. Richardson, a member of Congress;

R. R. Nelson, son of the Supreme Judge of the United States; afterwards District Judge for Minnesota; D. A. Robertson—

Q. Who was he, Colonel?

A. A resident of St. Paul, and an editor, a literary man. Also D. A. J. Baker.

Q. And who was he?

A. A resident of St. Paul, and a business man.

The Commissioner: Walbridge?

Witness: Yes, Horace S. Walbridge, of Toledo, a banker; Robert J. Walker, secretary of the Treasury under Polk, I think. There may have been some others. And Edmund Rice.

Q. Was Stephen A. Douglas one of them?

A. No, sir. He had an interest, held in other hands. Edmund Rice, brother of Senator Rice. Douglas had an interest, as I understand, but it was held in other hands, in trust.

Q. In trust for him?

A. Yes.

Q. But he was one of the interested parties?

A. Yes.

Q. There were some others that you do not recall now?

A. I think there were one or two.

The Commissioner: Were the Breckenridges of Kentucky here?

Witness: They were interested in property; I am not certain that John C. was; I think he was one of the proprietors;

682 John C. Breckenridge, afterwards vice-president, and a military man in the Civil War. A great many interests were held in trust, the names not appearing.

Q. What is the extent of the holdings of those proprietors at the head of the lakes here, generally speaking?

A. Well, to the extent of four or five thousand acres, in Township 49-13 and 49-14, fronting on the water.

Q. They platted the townsite of Old Superior, now known as the East End?

A. Yes, sir.

Q. In what year?

A. In what is called the Western Division in 1854.

Q. And other divisions later?

A. And other divisions later.

Q. After you settled at Superior you entered a pre-emption claim over at Oneota, on the Duluth side, what is now known as the Duluth side?

A. On the Minnesota side; yes, sir.

Q. Where was your pre-emption claim located?

A. In close touch with Oneota, the site of it, and about a mile and three-quarters or two miles from the base of Rice's Point, now known as part of West Duluth.

Q. How long did you occupy that pre-emption claim?

A. Oh, I think between one and two years.

Q. During that time you were frequently back and forth between that claim and Superior, Old Town?

A. Yes, sir.

Q. How did you travel?

A. By water, in canoes and boats.

Q. By "boat" you mean row-boat?

A. Row-boat.

683 Q. Were there any boats at the head of the lakes navigated by other than man power at the time you came here?

A. Yes, sir.

Q. What was it?

A. The first boat I saw was called the Baltimore; she lay then near the old lighthouse, by the entry, the natural entry.

Q. When was that?

A. 1854.

Q. Now, were there steam boats came to the head of the lakes prior to that time?

A. I don't think there were. The Sault Canal was not open for navigation prior.

Q. Do you know how the Baltimore got into the waters of Lake Superior?

A. I have always understood she was rolled over.

Q. At the Sault?

A. At the Sault.

Q. Portaged over?

A. Portaged over.

Q. About when was the Sault Canal opened so that boats could run between Lake Superior and the lower lake waters?

A. Well, I think for light draft in 1855.

Q. About how many boats do you think were portaged over before that time?

A. I don't know of any.

Q. Except the Baltimore?

A. Yes, sir, except the Baltimore.

Q. Then, the navigation at the head of the lakes prior to that time consisted of what?

A. Well, I don't know from actual knowledge.

Q. There were row-boats and canoes, were there not?

A. Repeat.

Q. There were row-boats and canoes, were there not?

A. Oh, yes.

Q. And the navigation, then, of these waters here prior to 684 that time was by row-boat and canoe, was it not?

A. I think it was. I should say that history indicates navigation of the lake prior to that time—1854—by other than row-boats and canoes, as light draft craft; for instance, what is called the Algonquin, a sail-boat of some tonnage, and doubtless other craft.

Q. About how many other craft?

A. Well, I have no idea.

Q. There were a few, were there not?

A. I understand so from history?

Q. The Algonquin was a sail-boat of very light draft, wasn't it?

A. Yes, sir.

Q. About how much water did she draw?



A. That is, she was a boat moved by sails, and probably of sixty or seventy tons tonnage, 50 or 60 I should say.

Q. What other boats navigated the water here at the head of the lakes in the '50's?

A. The Manhattan, the Lady Elgin, the North Star, City of Superior, Cuyahoga, Illinois, Planet, City of Cleveland, and others.

Q. Was there a Sunbeam?

A. The Sunbeam came here while I was away, during my absence, the six years or about. She was lost.

Q. Then it was not here in the '50's?

A. I never saw it to remember; it doubtless was.

Q. Now, those boats that you have named were all the boats that you knew of navigating the waters here at the head of lakes in the '50's?

A. Yes, sir; those and others.

685 Q. There were some others?

A. I think so.

Q. About how many others would you say ?

A. Well, three or four, or more.

Q. What did the traffic consist of at that time, Colonel Hayes? The water traffic, I mean.

A. Bringing supplies for the settlement, for explorers and people who were attracted here by the new town. They brought cattle, sent over to Minnesota by the Military road; they exported cattle more or less, brought from that direction, not much but some; Indian goods; railroad supplies.

Q. In the '50's?

A. Yes, sir.

Q. Where did the railroad supplies go from here?

A. The Lady Elgin, I think in 1856, in November, brought a load of such supplies, meaning subsistence, implements, et cetera, for the purpose of commencing the construction of a railroad from here (meaning west end of Lake Superior) in the direction of Iowa, to some point on the Iowa line, between Minnesota and Iowa; moved by a land grant enacted in, I think, May, 1854, but afterwards repealed. It was in expectation of constructing that road that the supplies came.

Q. Was the road constructed?

A. No, sir.

Q. When was the first railroad constructed at the head of the lakes?

A. The first operated road by the fall of 1881, in December, I think, over which came the first train of cars to Superior, from the Northern Pacific Junction then called, now Carlton.

686 Q. Is that the first railroad at the head of the lakes?

A. No, sir.

Q. Which was the first?

A. The Lake Superior & Mississippi, afterwards St. Paul & Duluth, now a part of the Northern Pacific.

Q. When was that constructed to the head of the lakes?

A. About 1869 or '70.

Q. Now, those boats that navigated the waters here at the head of the lakes in the '50's, state whether or not they generally went up the waters of the St. Louis River here, including the bays?

A. No farther than to reach what was then and is now called Quebec pier on the Superior front, about a mile in a straight line from the lighthouse at the entrance.

Q. By that you mean the old lighthouse at the Superior entry?

A. Yes; incapable of coming directly across, but taking a course by the deep water up the bay or river to a point above Quebec pier, that is, to the west of it, up-stream; then taking a circuit southwesterly, I think, and came in Quebec pier by this detour.

Q. When the boats came through the natural entry, you say they went up the channel there. Where was the channel that they traversed?

A. As indicated, I think, by the chart of Captain Meade, surveyed or prepared in 1861, and later published, and now known as Meade's chart.

Q. They went up the channel, you say, as indicated on that map?

A. I think so, up to the deep water.

687 Q. Up along the Minnesota Point shore?

A. Yes, sir.

Q. To a point that would be northwesterly or above the Quebec pier?

A. Yes, sir.

Q. Then they came in a circuitous route back to Quebec pier?

A. Yes, sir. This point of turning I would say would be about a mile and a half from the extreme end of Minnesota Point, or thereabouts.

Q. Southerly from Minnesota Point?

A. Northwesterly, up the point.

Q. Oh, yes. Could the boats come straight in to Quebec pier at that time?

A. No, sir.

Q. Why?

A. Shallowness of the water.

Q. Did those boats generally go up the waters of the St. Louis River in the '50's?

A. As I have indicated.

Q. Just to Quebec pier?

A. Just to reach Quebec pier.

Q. No farther up the river?

A. No, sir. I ought to except perhaps instances of which I have no recollections; they may have gone up.

Q. They may have gone up in some instances?

A. A little farther.

Q. Yes, but generally they went up no farther than you have indicated?

A. Yes, sir.

Q. Were they deep draught boats, or not?

A. Well, they drew from eight to twelve feet when loaded, perhaps fourteen.

Q. After you settled here, did you become familiar with the waters of St. Louis River, including St. Louis Bay and Superior Bay?

A. In a general way.

Q. Do you know how the people regarded that water, as to whether it was a river, or an arm of the lake, at that time? How did they regard it?

A. As a river, the entrance, or the mouth being at the entrance between the two points, Minnesota and Wisconsin.

Q. Describe that entrance at that time, Colonel Hayes.

A. It was about a thousand to twelve hundred feet wide, naturally, from point to point. It contained from 8 to 12 feet of water, between the two. When they turned around Minnesota Point and entered the bay or river, there was very great depth then and now, 25 or 30 feet. They approached this entrance from the lake, deep navigation, to a point northwesterly of the entrance in the lake; then turned and came towards the entrance in deep water. In the entrance was the depth I have named, in its direct lake approach, or approach from the lake, and passing through the entrance boats encountered difficulty from change in the water, in the depth of the water, due to protracted northeast storms, which blew in those days three days at a time, and some six, with great force, and moved the sand in the entrance and its approach, so that the navigable depth varied in consequence more or less, making the channel somewhat tortuous.

Q. State whether or not these northeast winds frequently and entirely changed the channel there of the river, or whether it would fill the channel up?

A. Well, it would change the channel, it would change the depth of the water; that is to say, the storms were filling up the channel, and the accumulation of water in the river or bay running out and eroding the channel, making it somewhat different.

Q. Was the course of the channel through the natural entrance—and by that I mean between Wisconsin and Minnesota Points—straight, or sinuous?

A. The approach to the entrance would be sinuous; less so probably in the entrance itself.

Q. Was there a well-defined channel in the entrance there between the points at that time?

A. I should say not a well-defined permanent channel; after the fashion of that inside from the point up the bay or river.

Q. That is, you say it was so permanent?

A. No, I think not.

Q. As the one inside?

A. No, sir.

Q. But was there a channel there at all?

A. Well, there was deep water; there was relatively deep water; the channel varied; I mean from exact location.

Q. State whether or not after the northwest wind blew and in-

terfered with with channel by filling up, the current of the river would immediately cut a new channel or the old one out?

A. The accumulation of water inside would cut out its own course.

Q. And that would change after a northeaster very frequently, would it?

A. That would change—that would deviate.

690 Q. Now, after you got inside there, you say there was a well defined channel?

A. Yes, sir.

Q. What course did that channel take?

A. It took the course I have indicated heretofore in reaching Quebec pier, and thence on, as shown by the chart.

Q. That is, as shown by the Meade chart?

A. As shown by the Meade chart, up to the gate.

Mr. Fryberger: Up to where?

Witness: The gate—meaning between Connor's and Rice's Point.

The Commissioner: In a diagonal direction across the bay?

Witness: It was so.

The Commissioner: Lengthwise of the bay?

Witness: Yes, sir, diagonally, as shown by the chart.

Q. Did you see and observe any evidences of current in the St. Louis River at its mouth there, between Minnesota and Wisconsin Points in the fifty years when you first came up here?

A. Yes, sir.

Q. What were they?

A. Well, apparent to the eye, to observation; the freezing up later in the fall, the open water.

Q. The freezing up later, you say?

A. In the winter; the longer continuance of open water in the winter; the earlier thawing out of the ice in the spring; objects on the bay moving towards that point, in entrance, as logs, drift, ice; common observation and general consent to the fact occurring.

Q. Now, you speak of the mouth there—meaning the place  
691 between Minnesota and Wisconsin Points—remaining open water longer than the rest of the surrounding waters?

A. Yes, sir.

Q. To what extent was that?

A. In point of time, long after the bay and the lake was frozen sometimes.

Q. The current keeping it open?

A. The current, I judge, keeping it open.

Q. And you say in the spring it thawed out at the place between the points there, first?

A. Earlier.

Q. That was the first open water then that you would find in the spring of the year, would it be?

A. I think so, prior to the creation of the Duluth entrance.

Q. When was the Duluth entrance made?

A. 1871, I think.

Q. Prior to that time the only outlet of the waters of the St.

Louis River was through the entrance between Wisconsin and Minnesota Points?

A. Yes, sir. The Nemadji River poured its water through that entrance.

Q. As well as the St. Louis?

A. As well as the St. Louis.

(A recess was here taken until two o'clock P. M.)

692

THURSDAY, August 9, 1917—2:00 p. m.

By Mr. Gard:

Q. Colonel Hayes, were you familiar with the channel of the river up through the gate in the '50's?

A. I think I observed the course of river craft from Oneota to the gate. That is, between Rice's and Connors Point.

Q. That was known as the gate, was it?

A. It was called that sometimes for short.

Q. You are familiar with the Meade map, are you?

A. Tolerably.

Q. Does the Meade map show the channel in the vicinity of the gate as you understood it to be?

A. Yes, sir.

Q. Colonel Hayes, The Barrens Minnesota Point have been spoken of here, that is the part of the point near the center or southerly from the center, that is now barren of trees. I will ask you if that has always been barren of trees?

A. My remembrance is that it was covered with timber like the rest of the point, when I came here in '54.

Q. Do you know how it came to be denuded?

A. No, sir, except by fire.

Q. There was a fire that had something to do with it, do you think?

A. I think so.

Q. Colonel Hayes, I believe you said that you knew the proprietors of Superior—I mean Old Superior, that came here in 1854 regarded the waters that are now known as Superior Bay and

693 Allouez Bay as part of the St. Louis River?

A. Yes, sir.

Q. Colonel Hayes, a dike has been spoken of in the evidence that as I understand it extended from near the end of the outer end of Rice's Point across Superior Bay substantially at right angles with the Minnesota Point shore line to Minnesota Point?

A. Yes, sir.

Q. You were here when that dike was built?

A. Yes, sir.

Q. Knew of its history and how it came to be built?

A. Something of it.

Q. How did it come to be built?

A. When Minnesota or Duluth began to open the entrance, the Duluth entrance, by excavation, and prior to that time it was under-

stood that such was to be the course of things, Wisconsin took alarm on the ground that it would divert the current of the river from the natural entrance between Minnesota and Wisconsin Points and would diminish the scouring course at the entrance—the Superior entrance, and shoal the water so as to impede navigation. And injunction was sought to prevent the cutting of the Duluth entrance. That injunction was granted, as I understand. Then I think by reference to the Engineer's Department of the Government some compromise was sought. Out of that idea grew a suggestion of a dike or bulkhead on the line you indicate, or similar line, to prevent the current of the river from—or, to diminish its effect, to forbid it, rather, from going out the Duluth entrance.

Q. The dike was built?

A. And the dike was accordingly built and existed for a  
694 time.

Q. What was the nature of its construction?

A. Cribs, as I remember, of round timber and hewed timber filled with stone or gravel and material. It proved unsubstantial. A great mass of water on the Superior side accumulated and pressed against this barrier. It went through it and it went under it. It was an obstruction to intercourse between the two towns, cities, populations. We had to lift boats over by main strength to get across to Duluth, and vice versa. Then after months, either by arrangement between the two towns, sanctioned by the engineers, an opening was made in the dike through which ferry boats passed unobstructed, and small craft. At that point it was found, as I remember, twenty-five or thirty feet of water, an excavation had been made under the line of the bay. The pressure was enormous and I have observed it. The obstruction was not adequate to its effect as supposed, would be.

Q. That extended above the surface of the water?

A. Oh, yes, several feet.

Q. How far above the surface, about?

A. Well, five feet at least.

Q. There was a railroad track on it?

A. I have seen a locomotive on it and a railroad track.

Q. Ran across to Minnesota Point?

A. Minnesota Point; used for construction purposes.

Q. Was there any act of Congress ordering it put in or taken  
out?

A. Oh, I think not.

695 Q. I show you Wisconsin's Exhibit 26 and ask you what that is?

A. That is a lithographic copy reduced in scale from the original map of Superior, published about '56. Extensively circulated and much used in those days.

Q. Do you know who got it out?

A. The proprietors of Superior.

Q. The proprietors of Old Superior?

A. Yes.

Q. Now, Colonel Hayes, I will ask you whether or not there is plattings of lots that extended out into the water there?

A. There is; there are.

Q. And those lots are shown on this map as land rather than water, aren't they?

A. Well, submerged lands in fact, in front of the shore line.

Q. I call your attention to the lots extending out in the projection here of Hatch and Stewart Avenues, into the bay, and ask you if those lots don't extend out into the water?

A. They do, from the point indicated, out from your point indicated.

Q. I don't find any shore line indicated there, Colonel Hayes. May be there is one. Just wait. I guess there is. Refer to the finely dotted line there, Colonel Hayes. There is a finely dotted line there.

A. I observe it from your view. I do not see it distinctly without glasses.

Q. But you know there is a dotted line there that was intended to represent the shore line?

A. I never observed that dotted line particularly. I never observed that dotted line, but I presume it indicates the shore line.

Q. You say that map was generally used at that time?

A. Yes, sir, referred to. On it is written "Bay of Superior" and also "St. Louis River," in the bay space. The latter near the entrance; also Allouez Bay.

Q. How long have you had this map, Colonel Hayes?

A. In my ownership and possession since '56.

Mr. Gard: We offer in evidence Wisconsin's Exhibit 26 and ask the privilege to have this map photographed and the photograph substituted for the original, for the reason that Colonel Hayes prizes this as a relic and would like to have it back.

The Commissioner: Received in evidence, with leave to substitute photographic copy and the withdrawal of it from the record.

Q. Colonel Hayes, do you know as a matter of fact that lots have been platted in the waters of Superior and Allouez Bays from the beginning of the ownership of the proprietors up to the present time?

A. Yes, sir.

Q. And do you know whether the titles have been passed on these lots based on the fact that they are in a river and not the lake?

A. I do.

Q. I will ask you whether or not there have been valuable improvements erected on these lots that were submerged under Superior Bay when they were platted and had no connection with land on the shore?

A. Extensive improvements have been made on those lots, those submerged lots.

Q. Name some of them, Colonel Hayes?



A. Flour mills—the Daisy Mill.

697 Q. You mean the flour mills located on Quebec pier?

A. Yes, sir. The Anchor Mill, two elevators, grain elevators, and coal-dock.

Q. You mean the coal-dock at the east end there?

A. Yes, sir.

The Commissioner:

Q. How about that great coal-dock in Allouez?

A. Well, I think the coal-dock in Allouez is in Allouez Bay.

Q. It's on submerged land, isn't it?

A. Yes, sir, I think so.

Q. Do you recall how big that is, the big coal-dock at Allouez?

A. No, I do not. It's very large. It is large.

Mr. Gard:

Q. Do you know whether the docks of the Allouez Bay Dock Company were located on lots that were platted out in the submerged lands and are submerged?

A. I do not.

Q. Have you some idea of the value of the improvements that were built on these submerged lots in the Superior Bay, Bay of Superior, I mean?

A. Do you mean the present improvements from one end to the other?

Q. I mean the money that has been invested in these improvements?

A. From one end to the other?

Q. Yes, on lots that are submerged without shore line connection?

A. Amounts to hundreds of thousands of dollars, as I believe.

Q. Colonel Hayes, you said you were familiar with the Meade map?

A. Yes, sir.

Q. Did you know of Captain Meade being up here at the head of the lakes?

A. Yes, sir.

698 Q. Did you know him when he was here?

A. I knew him in Washington.

Q. Is this Captain Meade that made this map the Meade that was general in the United States Army?

A. It is.

Q. And when was he here at the head of the lakes getting the data for the map?

A. In '60 and '61. I think I met him in Washington as he returned to that place, as he told me, in obedience to an order; and we conversed a good deal about Superior and its people. It was before he had taken command.

Q. You said you were a member of the Library Board of the City of Superior, Colonel Hayes?

A. Yes, sir.

Q. I show you a volume here entitled, "Wisconsin and Its Resources by J. S. Ritchie," and ask you if that book is a part of the Superior Public Library?

A. It is.

Q. You took it out of there yourself, did you?

A. Yes, sir.

Q. I will ask you who J. S. Ritchie is or was?

A. He was an early settler, a lawyer, district attorney, and owner of a good deal of real estate.

Q. At Superior?

A. Yes, sir.

Q. Do you know when he came to the city?

A. About '57.

Q. How long did he remain a resident of Superior?

A. To his death.

Q. When was that?

A. I think within three years.

Q. You know of this book, do you, that I show you: "Wisconsin and Its Resources"?

A. Yes, sir, I know the book.

Q. How long have you known of it?

A. Since its publication, '56.

699 Q. This purports to have been published in '60, I guess. Was it published before that date, do you think?

A. I think the title shows.

Q. This purports to have been published in '60. Do you know anything about the time that Mr. Ritchie spent on gathering the information that is contained in this book?

A. No, I do not.

Mr. Gard: I want to offer in evidence a paragraph relating to the St. Louis River, at Page 75, and another paragraph relating to the St. Louis River, at Pages 254 and 255, and want to read them into the record.

Mr. Bailey: We enter an objection as irrelevant and immaterial.

The Commissioner: The paragraphs may be read into the record subject to the objection.

Mr. Gard: I read the paragraph at Page 75, as follows: "The St. Louis River considered is the primary source of the St. Lawrence, flows some thirty miles along the northwestern part of the state. It is navigable a short distance from its mouth and will be more fully described in Part II of this work."

I turn now to Part II and read at Page 254. The heading is "The St. Louis River." "The river rises in the northeastern part of Minnesota and enters Lake Superior on the west. It is extremely rocky and so full of sunken boulders and dangerous rocks that it never could be made navigable further up than Fond du Lac, which is twenty miles from the City of Superior. The action of its waters and those of the lake have formed a narrow strip of land about  
700 seven miles in length, jutting out from the Minnesota shore,

which in connection with a similar point from the Wisconsin shore in an opposite direction, forms the Bay of Superior. At the head of this bay the river again widens out into another bay of about the same size, which is called the Bay of St. Louis. From thence to Fond du Lac, the old trading post of the fur company, the river is wide and of sufficient depth to admit a passage of any craft which ply upon the lake. It is somewhat crooked, containing numerous islands, some wooded and others covered with excellent grass and fields of wild rice. The St. Louis flows through a rich level bottom from one to three miles in width, partly timbered and partly covered with natural meadows. From the Bay of St. Louis to the falls its northern shore is bold and rugged. The bluffs on the south side are similar to those of the north for several miles below the fall. Immense quantities of excellent stone suitable for building purposes, and slate are on its banks, and from the surface indications we infer that valuable *mineral* ores abound. During the past winter the lumbermen have not been idle. The first raft consisted of 2900 logs and was towed by the Steamer Carson on the 24th of May, from near Fond du Lac to the Duluth mill."

Mr. Bailey: What is the date of that?

Mr. Gard: "Entered according to the Act of Congress in 1860."

701 Q. I show you a volume entitled "Toward the Lakes" and "Sketches of a Tour to the Lakes, and the Character and Customs of the Chippewa Indians and of Incidents Connected With the Treaty of Fond du Lac, by Thomas L. McKenney of the Indian Department and Joint Commissioner with His Excellency Governor Cass, in Negotiating the Treaty" and ask you if that book is part of the Public Library in the City of Superior?

A. It is.

Q. You borrowed it from the Public Library, did you?

A. I did.

Mr. Bailey: When was it published, Mr. Gard?

Mr. Gard: It was published in 1827 and is in the form of a diary.

The Witness: I will add further, if you will allow me.

Q. Proceed.

A. In the Public Library of Superior this book belongs to what is called the "Legler Collection," being a collection of rare and old-time books gathered by an industrious collector now librarian of the Public Library of Chicago. He presented this collection as not to be duplicated, hardly to be duplicated, to the Public Library of Superior, and this book belongs to that collection.

Q. How long ago?

A. Oh, I suppose it was seven or eight years ago that he presented it.

Mr. Gard: I will ask to read from Page 270 and 271, being a part of his diary, headed "Thursday, July 27. T. Sunrise 51 degrees."

The Commissioner: Any objection to the offer, gentlemen?

Mr. Fryberger: We would just like to look at it.

702 Mr. Gard: By reference back we find that that date is 1826, July 27th, 1826.

Mr. Bailey: We object to it as irrelevant and immaterial.

The Commissioner: It may be read into the record subject to the objection.

Mr. Gard (Reading): "When within about ten miles of the end of the lake we noticed a line stretching from shore to shore, the north and south shores being about five miles distant, and seemed like a narrow shadow, not very well defined. As we approached near, it became more substantial and when four miles up it was a well-defined beach with trees, pine and aspen scattered irregularly over it from one end to the other, and this was the fond or bottom, or more properly head of Lake Superior. The River St. Louis enters it through this beach which is of sand and which is from thirty to 200 yards wide and diagonal, the mouth of the river being not more than 200 yards wide. We arrived at the head of the lake at four o'clock and pitched our tents on the southwestern side of the beach which is washed by the River St. Louis, and where we were met by about thirty Indians. We were gladly received by them and made them presents, as usual. The chief of the Fond du Lac band was here and had a little son with him, of whom he was passionately fond. He wore his father's medal and was never from his

703 sight, and when he first met us he could scarcely take time to tell us how glad his heart was made by our arrival before he picked up his little boy, who was about four years old, and pressed him through the crowd of Indians, that he might shake hands too. We were soon told by him that it was his son. The north shore of Fond du Lac is mountainous and rolls on beautifully and boldly far beyond where the beach crosses, whilst the south is more level, and less elevated. The beach was doubtless formed by the meeting of the current of the river and the waves of the lake. This was the quiescent part of the water, and so the deposit was made and here doubtless the same cause may continue to keep it. It is a beautiful termination. The beach does not make directly across. It forms a curvature up from the indentation. The river passes out about two-thirds of the distance from the south to the north side of the lake. We are now twenty-four miles of our treaty ground,—of the American Fur Company's establishment, called the Fond du Lac department."

Q. Colonel Hayes, are there trees on Minnesota Point at the present time?

A. Yes, sir.

Q. What are the sizes of those trees?

A. The largest I remember about two feet in diameter and varying, the larger sort, in diameter down to eight inches.

Q. Principally pine, are they?

A. Such as I mention, yes.

Q. I will ask you were you very familiar with the river above Oneota in the early days?

A. Not otherwise than going up in small boats and in excursion boats, which was often.

Q. Do you remember what course the boats took after they  
704 went past Grassy Point going up?

A. My recollection is that they often went through the cut-off up by Pokegama Bay into the river.

Q. By "cut-off" you mean the channel southerly of Big Island?

A. Yes, sir; proceeding on to Fond du Lac.

Q. In coming down——

A. In coming down they would take the northern route, north of Big Island, on that course, seeming to be aided by current in going home.

Q. And you remember after they got around Big Island the course they took?

A. They went with reference to the Minnesota shore.

Q. Very close to the Minnesota shore?

A. Yes, sir.

Q. Are you familiar with the Meade map, at that point, I mean?

A. I can't say that I have studied carefully of late years.

Q. But you remember that they went close to the Minnesota shore below Big Island?

A. Yes, down by what is called Millford.

Q. And down through Grassy Point, what course did they take between Millford and Grassy Point?

A. Following not far from the Minnesota side.

Q. You didn't navigate the river yourself, did you, with deep water boats, so that——

A. No, I did not.

Q. You had no occasion to become familiar with the channel then yourself, did you?

A. I didn't. I was not familiar.

Cross-examination.

By Mr. Hanitch:

Q. Colonel, those boats that you say came down on the north channel, did they stop at Millford?

A. I think not. Possibly put off a passenger. I am not  
705 aware that they stopped at Millford for any purpose.

Q. Except to take on or let off a passenger?

A. Well, possibly.

Q. Were they excursion boats or freight boats?

A. Excursion.

Q. Went up the river for the special trip, did they?

A. Yes, sir, when I was present.

Q. About what years were those?

A. Well, both before I was away, between '55 and '60, before the war, but more frequently after I returned.

Q. That would be late in the '60's?

A. '66 and on.

Q. What rivers enter into those waters that you have designated as Superior Bay and lower and upper St. Louis, and St. Louis River? What rivers other than the St. Louis enter into these waters?

A. Well, the Pokegama.

Q. Are there two Pokegamas or one?

A. There is one to which I refer, which has a river or stream extending southerly.

Q. There has been a Little Pokegame spoken of here?

A. I think there is no stream there.

Q. That empties into the waters southerly of Big Island?

A. Yes, sir. It is this way from Big Island. It is hardly southerly, is it; easterly, is it not?

Q. We have spoken of the channel on the Wisconsin side as the southerly channel, that is, as the channel along to the south of Big Island?

A. That will do. But as to the River Pokegama I understood you.

Q. Yes, Pokegama, did it not enter into the waters at Big Island?

A. Oh, it is this side.

Q. Then near the Superior entry between Minnesota and Wisconsin Points is there a river entering the waters there?

A. The Nemadji River empties close by.

Q. Very nearly opposite this entry, does it not?

A. Yes, sir.

Q. That is a river of some length, is it?

A. Well, fifty miles or more I should say.

Q. Then into Allouez Bay are there some rivers that enter?

A. Small creeks, Bluff Creek and Bear Creek.

Q. About how long is Bluff Creek?

A. Not longer than eight miles, I think.

Q. Bear Creek is how long?

A. Well, that's small; that's local.

Q. Now, Colonel, what you designated as the proprietors of the townsite of Superior, which was laid out in '54 or '55, none of those gentlemen were residents of Superior, were they?

A. Nelson was. He pre-empted land.

Q. But his home was really in St. Paul?

A. Well, he lived at St. Paul and lived here.

Q. Simply long enough to perfect his title to that pre-emption?

A. Well, he lived here for a while. Nettleton was a proprietor and lived here.

Q. How long?

A. He lived here five or six years.

Q. A great majority of them, however, lived in other parts of the United States and were wealthy men, were they not?

A. They lived in other parts of the United States.

Q. This location or platting at that time was a sort of a townsite promotion, was it not, of Superior?

A. I think it was intended to make here a city vying with St. Paul.

Q. Vying with St. Paul?

A. With St. Paul, yes, which was very small then, but the prospects seemed unbounded as to magnitude at the time.

Q. And it was thought there would be a great growth here and a great sale of this real estate, was it not?

A. Doubtless.

Q. And was the foundation for such prospects?

A. I think so.

Q. Now, Colonel, you are a lawyer by profession?

A. Yes, sir.

Q. Under the laws of Wisconsin it would not be lawful to plat lands submerged except they were submerged by waters of a river, would it?

A. It would not be lawful to plat lands in a lake or pond.

Q. So that in order to make title to the lands under these waters it would be necessary to have the waters a river, would it not, under the laws of Wisconsin?

A. I think so.

Q. Now, in the platting of this townsite of Superior, probably as much as one-third of all the lots and blocks which they platted were under water, were they not?

A. I can't say as to the relative proportion, but very many were submerged.

Mr. Fryberger: I guess it will be admitted that that line on the map shows the shore.

Mr. Gard: Yes. That shows it on the map.

Q. So that in order to make good title in the proprietors of these great number of lots as is shown by Wisconsin's Exhibit 26, 708 the proprietors had to designate this, waters of the river, did they not?

A. They had to designate and regard and hold these waters to be a river.

Q. Colonel, some fifteen years ago there was dredging done in the waters of the Superior Bay by Captain Barker and the dredged material was thrown out to the southerly side of the channel, and made what is commonly known as Barker's Island or sand spit along the shore there, was it not?

A. Yes, sir.

Q. Now, that extends practically from the Superior entry to the base of Connors Point, does it not?

A. The island?

Q. Yes.

A. No, sir.

Q. How far would you say it extends to the west? I guess as far as L Avenue or little farther?

A. I know where the islands are but not with reference to avenues.

Q. This sand spit is something over a mile long, wouldn't you say?

A. I should say in that neighborhood.



Q. What is the character of that material, Colonel; what is it, sand?

A. I think it's sand and clay and silt.

Q. Well, isn't it substantially the same character of earth that you have on Minnesota Point?

A. I think there is a good deal of clay mixed with it.

Q. You think there is some clay mixed with it?

A. Yes.

Q. Well, haven't they sold that material there for building sand in the City of Superior?

A. Well, I don't know; I have heard so.

709 Q. Don't you remember that Mr. Lenroot, before he sold that land to the Great Northern, sold considerable of that material for building sand in the City of Superior?

A. I am not acquainted with a single transaction of the sale of sand, personally. I have heard that sand had been taken from those islands.

Q. And used for building purposes?

A. I don't know personally.

Q. Colonel, I think you stated that prior to the '60's none of the boats that you have mentioned as being there in the '50's went beyond Superior Bay.

A. The boats?

Q. Yes. Is that right?

A. That's right.

Q. And the boats which you named, Lady Elgin, Manhattan and the others, were those propelled by steam?

A. Yes, sir.

Q. Were they side wheelers?

A. I think the Elgin was a side wheeler, and some others possibly; I think mostly propellers.

Q. Were they boats of some size?

A. Yes. They were considerable size for those days.

Q. Why did they not go beyond Quebec Pier?

A. I think they had no occasion in point of business.

Q. It was only lack of commerce that prevented them from going up?

A. I think that's true, yes, sir.

Q. The boats which you used then in passing from Oneota down to Superior were largely row boats and canoes, were they?

A. Repeat.

Q. The boats which you used in traveling from Oneota to Superior when you had your pre-emption at Oneota, were row boats or canoes?

710 A. I think that's true.

Q. There were no steamers, steam-boats plying up there?

A. No, not any in—

Q. Not in the '50's?

A. I can't say that there were none. There was lumber exported

from the Oneota mill and from Millford. I can't say that in no case a steamer did not go up there.

Q. I mean so far as you recollect. There certainly couldn't have been many or you would have recollected it?

A. There couldn't have been many steamers.

Q. It would have been an exceptional case?

A. That is true.

Q. When the wind blew from the northeast in those days the current set in from the lake, did it not, at the Superior entry?

A. Water was driven in from the lake.

Q. There was quite a current in that entry, was there not?

A. It was driven in from the lake, yes, sir.

Q. And when the wind ceased the water flowed back?

A. Yes, sir.

Q. About how high, if you recollect, did the wind raise the waters in the bay during those years?

A. Of the exact height I have no knowledge.

Q. Well, round or about, approximately how much, what was the stage of water increased by the wind?

A. Well, I think a foot or two; that's a conjecture.

Q. Colonel, would you say that the waters of the Nemadji being opposite Superior entry would have had effect on the melting of the ice or the prevention of the formation of ice at or near the  
711 Superior entry?

A. To a degree. I attribute it largely to the St. Louis currents.

Q. Why, because the St. Louis had more water?

A. More volume, and the water.

Q. You know Captain McDougall of Duluth?

A. Since his shipbuilding enterprise here; not much before.

Q. You didn't know him in the early day?

A. No.

Q. Did you know George R. Stuntz in the early day?

A. Yes, sir.

Q. How early did you meet him?

A. I think as early as '55 or '6; probably in '54.

Q. Was he doing some surveying at that time?

A. He was government surveyor of the townships 49-13 and 14 and also after the Treaty of September 30th, 1854, surveying in Minnesota, I think.

Q. How old a man would you say he was when you met him first in '54?

A. Thirty-five years or so.

Q. You spoke of the Baltimore being the first boat you saw. Was that a steam-boat?

A. Yes, sir, a propeller.

Q. How could the sail-boats get into the bay in the early day? Did they sail in or were they towed in by row boats, or how did they get into the Bay of Superior—I mean in the '50's?

A. There was not much navigation by ships of that sort, vessels of that sort, sailing vessels; mainly vessels propelled by steam.

Q. I think you testified that you thought these boats were twelve or fourteen feet draft. Is that a mere guess on your part or did you have occasion to learn precisely what their draft was?

712 A. Well, my notion, from what I knew and understood was that they were twelve or fourteen when loaded—twelve, we will say.

Q. Assuming that the Soo when it was opened only had a depth of nine feet of water, would you say those boats were twelve?

A. I should say boats of that draft were later and after the deepening of the Soo.

Q. But if the Soo had but nine feet when it was opened in '54 or '5, those boats you wouldn't say had twelve or fourteen feet, would you?

A. Well, coming light, coming unloaded, unladen, they might on that depth.

Q. These boats that you speak of, did they ply other waters than Lake Superior during those days?

A. I think they traded to Lake Erie and down Lake Michigan to Chicago. I think the Lady Elgin, for instance, ran to Chicago.

Q. Did you have any experience in the navigation of boats in these waters at any time since you have lived here?

A. Not as a navigator?

Q. Have you had any financial interest in any of them?

A. No, sir.

Q. You have never had occasion to sound these waters to learn their depths or to learn their channels?

A. I never participated in the soundings or had any occasion to.

Q. So whatever information you may have with reference to the depths are what you have obtained from what they call here the Meade map?

A. And from soundings taken by the proprietors in '54, at the entry.

713 Q. At the entry?

A. And between the entry and Quebec Pier and outside of the entry. I learned this from the number of feet marked on their map, original maps.

Q. But further into Superior Bay than the route which these early boats took to reach Quebec Pier you have no personal knowledge of the soundings?

A. Not by sounding.

Q. When was the light-house built there, Colonel, if you know; I mean the old light-house?

A. 1856, I think.

Q. How near was that to the entry at that time, would you say, Colonel?

A. I don't remember.

Q. Was the entry in those days a little nearer to the lighthouse than it is now?

A. I think probably.

Q. By passing up along the point after entering the bay, I mean Minnesota Point, in a northwesterly direction, did you meet with a

deeper body of water that crossed over to the southerly side of the bay?

A. You speak of which bay?

Q. The Superior Bay. I mean in your testimony here you spoke of the boats coming into the Superior entry and passing northwesterly along Minnesota Point?

A. Yes.

Q. For some distance and then making a detour around to Quebec Pier in a southwesterly direction?

A. Yes, sir.

Q. Was there a deeper body of water by following that course?

A. There was a greater depth of water, found by experience; sometimes had to jettison then; threw over a cargo of cattle once in coming around here.

Q. Let them swim ashore?

A. Let them swim ashore.

714 By Mr. Fryberger:

Q. Colonel Hayes, you spoke about the building of this dike and gave a detailed description of it. As a matter of fact, Wisconsin became unduly alarmed at the time she insisted upon the construction of that dike, did she not?

A. She felt that there was real cause for alarm, as the case was then understood.

Q. She felt that way?

A. Yes.

Q. It turned out afterwards and it was demonstrated, as a matter of fact, that the dike did no good, isn't that true?

A. I think that is true.

Q. As a matter of fact, the opening of the canal on the Minnesota side didn't have the slightest effect upon the waters in the bay, the level of the waters?

A. It did no good in so far as intercepting the current of the Duluth canal.

Q. The next question is the digging of the canal, the opening of the canal on the Minnesota side through Minnesota Point, didn't have the slightest perceptible effect upon the water level in the bay; isn't that true?

A. Oh, yes.

Q. Did it?

A. Oh, yes. The water level fell.

Q. What is that?

A. The water level fell because it ran out through that entrance. I don't say that the permanent level, but at the time the cut was about built there was a measurement, as I remember, of the height of water in the bay, taken by leveling from the end of Wisconsin Point or Minnesota Point, up the beach, up the shore to the canal, and it was some inches higher as I remember, six or seven probably, higher at the canal, at that end of the bay, as deduced from

715 that survey or level. Then I mean to say that when the new entrance was made the water poured out through in great

volume and in speedy time, in a short time. The action of the water completed the deepening of the cut or increased its depth there by its action on the material and washing out into the lake.

Q. Well, Colonel, when there is a northeaster on and at certain other times there is a tremendous current in through the canal; isn't that true?

A. I think that's true.

Q. And at other times there was a very heavy current out; isn't that true?

A. Yes, sir. The survey I alluded to was made in quiet times. I remember it. I was on it or along with the party.

Q. In a quiet time?

A. Yes, sir.

Q. As a matter of fact, don't you know that there is a rise and fall in the lake level and the bay level constantly?

A. I think that is true.

Q. You think that is true?

A. Owing to storm and atmospheric pressure or some cause.

Q. Owing to storms or atmospheric pressure?

A. Or some cause.

Q. And there is what is termed a tide in this lake, is there not?

A. I have understood so.

Q. Did you ever take any soundings of any kind around this bay yourself?

A. Not in a personal way. I was present sometimes.

Q. You never navigated a boat yourself?

A. No, sir.

Q. You never were wheelsman?

A. No, sir.

Q. Or Captain?

A. No, sir.

716 Q. You didn't run a boat up the upper St. Louis Bay at all?

A. No, sir.

Q. Well, you spoke about going up there on excursions?

A. Yes, sir.

Q. You didn't go up there, I presume, every week on excursions?

A. Not so often; often, however.

Q. Probably two or three times a summer?

A. Yes, sir.

Q. Oftener than that?

A. I went often.

Q. Well, probably not more than two or three times a summer, would you?

A. I won't limit it to that time.

Q. You don't know?

A. I know we went often.

Q. Well, at that time or the time that you went up on those excursions you had nothing to do with the running of the boat, did you?

A. No, sir.

Q. Gave no direction?

A. No, sir.

Q. And you never at any time helped set any of the buoys in the channel?

A. No, sir.

Q. Did you know Alfred Merritt during the early days?

A. In a general way.

Q. Did you know Mr. B. F. Howard?

A. Yes, sir.

Q. John Howard?

A. Yes, sir.

Q. Leonidas Merritt?

A. Yes, sir.

Q. You weren't familiar with the navigation of these bays upper and lower St. Louis Bay and Superior Bay in the same way that they were?

A. I was not.

Q. You knew that they navigated the bay, made that their business in the early days, didn't you?

717 A. Yes, sir.

Q. You knew that that was the business of these men in the early days, didn't you?

A. I know that they navigated the bays, these waters.

Q. But you never had any such business as that?

A. No, sir.

Q. So your observation that you speak of was made as a passenger on those boats when you went on pleasure trips?

A. Yes, sir, and from Oneota, where I lived for a while.

Q. From Oneota going across to Connors Point?

A. Going around to Connors Point, yes, sir.

Q. And you didn't take any soundings; you came in a canoe, did you not, or row boat?

A. I took no soundings.

Q. You could go anywhere on the bay with a row boat, couldn't you?

A. Yes.

Q. You knew that Captain McDougall navigated these waters, did you, in the early day?

A. I think I did but I was not well acquainted with him until he came here and went into business.

Q. You don't claim that you were familiar with those waters in the same way that these navigators were?

A. I do not.

718 D. W. LOCKWOOD was called as a witness on behalf of the State of Wisconsin, was duly sworn by the commissioner, and testified as follows:

Direct examination.

By Mr. Gard:

Q. Where do you live?

A. I am stationed in Duluth.

Q. What is your official position?

A. I am in charge of the Lake Superior Engineer District.

Q. That is, of the engineers of the Department of War?

A. Yes, sir.

Q. Of the Federal Government?

A. Federal Government.

Q. How long have you been in charge of this office?

A. Since May 1st.

Q. The office is located at Duluth?

A. Yes, sir.

Q. Near the canal?

A. Yes, sir.

Q. You were a retired officer, I believe, were you not, when you went into service?

A. Yes, sir.

Q. By reason of the present war?

A. Yes, sir.

Q. And had you been in charge of district office before you were put in charge of the Duluth office?

A. You mean generally speaking?

Q. For some time in the past?

A. Yes, sir.

Q. What are the duties of district engineer generally speaking?

A. Well, he has general supervision and charge of the engineer, works in the district under the Chief of Engineers.

Q. And that engineering work has to do with the waters, does it?

719 A. Yes, sir.

Q. What does it have to do with the waters in the district?

A. Well, it has to do with regard to the improvement of rivers and harbors, building of breakwaters, possibly, piers.

Q. In those duties does it become the duty of the district engineers to make maps of the waters and harbors within their jurisdiction?

A. Yes, sir.

Q. That is part of their duties?

A. Yes, sir.

Q. When these maps are made are they filed in the office as part of the records of the office?

A. They are.



Q. There are a great many maps in the Duluth office, of the waters around the head of the lakes, are there not?

A. Yes, sir.

Q. They are in your custody?

A. Yes, sir.

Q. Who is your assistant at the Duluth office?

A. Well, there are two principal assistants: Mr. Clarence Coleman and Mr. Taylor.

Q. That is G. A. Taylor?

A. Yes, sir.

Q. Did you direct Mr. Taylor to make copies of maps in response to a request of the State of Wisconsin?

A. Yes, sir.

Q. And he has made copies of those maps?

A. Yes, sir.

Q. And he will produce them here in court?

A. Yes, sir.

Q. Did you have personal charge of the making of those maps, Colonel, or did Mr. Taylor have charge of it?

A. He had direct charge of it.

Q. You ordered him to do it?

A. Yes, sir.

Q. And he has part of those maps here now, has he?

A. I believe he has all but one.

720 Cross-examination.

By Mr. Exchange:

Q. Counsel asked you, Colonel, with reference to the duties of an engineer concerning boundaries. As I understand it, it isn't the duty of an Army Engineer to determine the boundaries between the states, that are in dispute.

Mr. Gard: I beg to correct the counsel. I didn't ask him anything in regard to his duties relating to boundaries.

Q. I understood that; anyway, I would like to ask that question.

A. Not unless specially directed.

Q. By whom?

A. Well, it would come from the War Department.

721 HENRY S. BUTLER was called as a witness on behalf of the State of Wisconsin, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Gard:

Q. Mr Butler, you reside in the City of Superior?

A. I do.

Q. How long have you resided in the city?

A. Thirty-three years.

Q. What is your business?

A. I am a lawyer.

Q. How long have you been practising law in the City of Superior?

A. During that period.

Q. Thirty-three years?

A. Yes, sir.

Q. In that time has it been your duties and province as an attorney to pass upon titles to land quite generally?

A. Yes.

Q. You have been connected with an abstract office most of that time there also, haven't you?

A. A part of that time.

Q. Is it or is it not true, Mr. Butler, that lots have been platted in the Bay of Superior that are submerged by the waters of the bay?

A. It is so.

Q. Many of them have no connection with land on shore at all, have they?

A. That is also true.

Q. Do you know whether the titles of those submerged lots have been passed on the ground that the waters submerging them was a river?

A. Titles have been passed to such properties on the theory that they are properties in a river.

Q. And has that been true ever since you began to practise law in Superior?

A. That has been the general view of the profession ever since I have been here.

Q. Do you know whether or not there have been extensive improvements made on lots based on the fact that they were platted on the waters of a river as distinguished from a lake, in Superior Bay?

A. There have been extended improvements made on platted property in Superior Bay, and without question on the theory that these improvements were made on descriptions that were situated in a river rather than a bay.

Q. What is your general understanding of the law of Wisconsin as relates to the difference between the right to plat lots on the waters of the river and a lake, and the title to the submerged portion?

A. My understanding is that the law in Wisconsin allows the platting in a river or a stream so far as the platting does not interfere with navigation, and that there can be no platting a lake or a pond, the reason being that in case of a lake or pond the ownership stops at the edge of the water. In case of a river the fee title being in the owner of the bank subject to the easement which the public has in navigation.

Q. In other words, the ownership of a shore owner goes to what place in the river, goes to what extent?

A. In case of a river the ownership extends to the thread of the stream.

Q. And in case of a lake where does it stop?

A. It stops at the shore line.

Q. Do you know the extent of the improvements that have been made on lots in Superior Bay, based on the fact that it is a river?

A. Very large improvements were made on Quebec Pier in the building of the Daisy Mill I think in the year 1892, and in 723 the same year two flour mills were built on the pier just to the west, Toledo Pier, the Listman Mill, and the Anchor Mill, and on the west side of Toledo Pier, in the same year, an elevator system was put up, consisting of an elevator and a large store-house in connection with it; and then on the pier just to the west, Montreal Pier, the west side of that pier, there was another elevator system of, I think, substantially the same size. Those five mills cost a vast sum of money, amounting to hundreds of thousands of dollars, I would think beyond a million dollars.

Q. If the waters of Superior Bay were lake is it your understanding that there would be any title to that property in the owners of those improvements?

A. My understanding is that there would be no title.

Q. If it was waters of the lake?

A. If the Superior Bay were a lake.

(Cross-examination.)

By Mr. Huntch:

Q. Mr. Butler, the improvements which you have spoken of have all been made within the dock line and south of the center of the Bay of Superior, have they not?

A. Yes.

Q. In the examination of these titles have you ever known anyone to take into consideration the old channel that has been spoken of in the Bay of Superior?

A. I do not know as I have.

Q. For instance, Mr. Butler, in the improvements so far as the mills are concerned have you ever heard the owners of that property assert ownership over the old channel that apparently 724 runs alongside of Minnesota Point?

A. I haven't in terms.

Q. What?

A. I have not.

Q. And you haven't heard anyone speak of his property as extending out to that point, have you?

A. I have never heard any owner say that.

Q. And in the improvement of Connors Point haven't the improvements been made out to the dock line regardless of where that channel was?

A. I do not know as I can say beyond this, I think the improvements on Connors Point have extended to the dock line.

Q. Haven't the dock line determined the ownership as to taxation and general transfer of property on the Wisconsin side of the Superior Bay?

A. There has been no taxation beyond the dock line.

Q. Well, in the handling of the property or the sale or transfer of it isn't the dock line, hasn't the dock line been considered as the limitation of the property which you would get?

A. I will answer that this way if I may. I think the understanding is that the shore owner owned to the thread of the channel but subject to the easement of the public for the purpose of navigation and when a dock line was established the understanding has been that that line determined the place within which a private owner might use the property for private purposes, and beyond which he couldn't go.

Q. In the negotiations for the sale or purchase of property on Superior Bay have you ever heard anyone say: "I am selling you a lot that extends clear over to Minnesota point or the middle of that channel?"

A. I never did.

725      Redirect examination.

By Mr. Gard:

Q. The practical use of the land outside of the dock line doesn't differ as between a lake and a river, does it, except as to theoretical title, I am speaking now outside of the dock line and before you get to the thread of the stream?

A. I would think in practice there would be no difference.

Q. That is, the owner's right to build is limited by the dock line, isn't it?

A. Yes, beyond the public has asserted its right to use the stream for navigation.

Q. And they have the same right to use a lake for navigation beyond that?

A. Yes, sir.

Q. And is it your understanding that the owner has the theoretical title to the land of the river beyond that?

A. That is my understanding.

Q. And in practise it doesn't amount to anything more than it does in the water of a lake?

A. Why, I would think that would be true.

Q. But inside of that dock line there is a vast difference, isn't here?

A. Yes.

Q. I mean by that between the shore line and the dock line; and the principal difference being that in the one case lots may be platted on that land between the dock line and the shore line and the other case it can't?

A. That is true.

By Attorney-General Owen:

726      Q. Mr. Butler, these submerged lots were platted before the dock line was established, were they not?

A. Yes.

Q. That is especially true of the old Superior town site?

A. That is what I mean.

Q. Now, have those submerged lots been the subject of barter and sale so that the titles of many of those submerged lots are now held by owners other than the riparian owners?

A. They have been the subject of sale and are owned separate from the ownership of the shore.

Q. The riparian owner?

A. Yes.

Re-cross-examination.

By Mr. Bailey:

Q. So far as building out is concerned there is substantially no difference; that is, in a lake the riparian owner would be allowed to build out without any objection?

A. A riparian owner on the lake has a right to build into the water in the aid of navigation, building docks and piers, so far as he doesn't interfere with the general rights of navigation.

Q. That same is true of a river, isn't it, except theoretically, if it doesn't interfere with navigation.

A. That is true.

Q. As a practical matter the difference is more theoretical than real?

A. In part, it seems to follow from the difference in Wisconsin that you can sever the ownership in a river, as wouldn't be possible in a lake. For example, you may plat in a river and you cannot plat in a lake.

Q. But so far as use is concerned there isn't much practical difference, is there, inside of the dock line in either case?

727 A. There would be this difference that I spoke of, that you couldn't sever in a lake the ownership so as to—

Q. I am speaking of use of the property. There isn't any practical difference in the use of the property out to the dock line in the one case than in the other, is there?

A. Perhaps not.

Re-redirect examination.

By Attorney-General Owen:

Q. You don't think a riparian owner has any right to build a flour mill or elevator or any other commercial institution on the bottom of a lake in this state, do you?

A. I think he has no such right.

Q. The only right he has is to erect such wharves and piers in front of his property as will enable him to reach the more navigable water?

A. I think that's it.

Q. And that is all he can do?

A. He may build such structures as are necessary or desirable in connecting his property with the navigation of the lake.

Q. And then when he doesn't interfere with the rights of others?

A. That's true.

Re-recross-examination.

By Mr. Bailey:

Q. If he wants to build a coal-dock, for instance, he can do that, can't he, in a lake?

A. I think he can build a wharf to connect his property with navigable water or his property with the navigable water of the lake.

728 Q. He could build an iron ore-dock, too, couldn't he?

A. I presume that he could.

Q. And if he could do that he could build an elevator too, couldn't he, if an elevator is a proper thing on a dock to transfer the wheat from the railroad to the water?

A. That would be perhaps an incident to connecting his property with navigation.

Q. And if he can do that he can likewise build a flour mill if the flour mill simply transfers the wheat into flour and he ships it down the lake—anything that's appropriate for a dock?

A. I would question whether he could build a factory?

Q. Well, we are talking about a flour mill now?

A. Well, I so regard a flour mill.

Q. Notwithstanding flour is shipped by water and that was the proper place to load it from the dock into the boats; would you say there was any question; not very seriously, would you, Mr. Butler; of course, provided it didn't interfere with navigation?

A. Certainly couldn't do it if it interfered with navigation.

Q. No. We will concede that.

A. Offhand, I would question whether the flour mill for the manufacture would—

Q. Even if there were a question, the only one that could raise any serious question would be the state itself, wouldn't it?

A. The state owns the bed of the lake.

Q. So the state would be the only one that could raise any question, in any event?

A. Yes, unless it so affected an adjoining owner in the use of the lake.

Q. Well, that would be interfering with navigation?

A. Yes, sir.

729 Re-direct examination.

By Attorney-General Owen:

Q. You wouldn't care to invest any great amount of money in a coal-dock or elevator built out into the waters of a lake, would you?

A. I would hesitate to.

Q. You wouldn't feel very secure in your title or in your right to remain there?

A. I would fear that that was putting private property where it should not be.

730 E. B. BANKS was called as a witness on behalf of the State of Wisconsin, was duly sworn by the Commissioner, and testified as follows:

Direct examination.

By Mr. Gard:

Q. Mr. Banks, where do you live?

A. Superior.

Q. How long have you lived in Superior?

A. Thirty-six years.

Q. What is your business?

A. Civil engineer and surveyor.

Q. How long have you practiced that profession?

A. Forty-five years.

Q. How long in the City of Superior?

A. Thirty-six years.

Q. You hold a public office at the present time?

A. I am city engineer.

Q. How long have you been city engineer?

A. About seventeen years.

Q. Consecutively or brokenly?

A. Not continuously.

Q. When were you first city engineer?

A. I was village engineer in '88 and city engineer in '90 and '91, and at different times since, amounting in total to about seventeen years.

Q. And how long have you been city engineer prior to this time?

A. Continuously?

Q. Yes, continuously.

A. Twelve years.

Q. As city engineer or in your profession have you taken soundings and made a map of the Bay of Superior?

A. Not as city engineer.

Q. That was in what capacity?

A. I was engineer for the Northern Pacific Railway in '81, '2, '3, and '4.

731 Q. I am speaking now of your map of the Bay of Superior?

A. Yes.

Q. Was that for the Northern Pacific road?

A. Yes, sir.

Q. I will show you Wisconsin's Exhibit 27 and ask you if that is the map you referred to?

A. That is the map.

Q. How did you make this map, Mr. Banks?



A. This map was made in the office by the draughtsman from notes which myself and other engineers made at Superior in '81 and '82.

Q. Did you superintend or oversee the taking of the data from which this map was made?

A. Yes, sir.

Q. And do you know it to be a correct representation of the waters and lands that it represents?

A. Yes.

Q. Who made the soundings?

A. Most of them were made by me or verified by me. I made soundings from the Superior entry clear to Connors Point in order to verify the Government Engineer's soundings.

Q. The Government Engineer's sounding as shown on what map now do you mean?

A. Well, at that time we had a map showing the Government soundings and we wanted to verify it so I started in and ran a line the whole length and took soundings enough so I could verify the soundings as shown on the Government map.

Q. Did you find them substantially correct?

A. I did.

The Commissioner: Is that the Meade map?

The Witness: No.

Mr. Hanitch: It was the recent maps issued by the Government?

The Witness: It was more recent than the Meade map.

732 Mr. Hanitch: That is, this is a verification of these annual or biannual maps that are being issued, is it not?

The Witness: I can't remember, but I know that we had a map showing the Government soundings and I was instructed to go out and run that whole line over and verify it, which I did; and we put them on to this map.

Mr. Fryberger: Were these soundings made in 1881?

The Witness: No; they were made in the winter of '81 or '2; some of them later than that.

Mr. Fryberger: Verifying some Government map.

The Witness: Verifying a Government map.

Mr. Fryberger: Subsequent to the Meade chart?

The Witness: Yes, sir. They were recent soundings.

Mr. Hanitch: Was this before or after some dredging?

The Witness: This was before there was any dredging except a slight amount running into Quebec Pier, which shows on that map.

By Mr. Gard:

Q. Had there been any improvements made at the Superior entry at that time?

A. Yes; there was a crib along both sides.

Q. Cribbing?

A. Cribbing just as shown on that map.

The Commissioner: Mr. Banks, the cribbing shown at the entry

on this map is known as the old cribbing which has since been torn out?

The Witness: Yes, sir.

733 Mr. Gard:

Q. And replaced with concrete piers on a wider channel?

A. Yes.

Q. In making these soundings did you find a channel extending from between Rice's and Connors Point to the Superior entry?

A. I did.

Q. State whether or not you found that channel well defined?

A. Very well defined, yes, sir.

Q. And is it represented on that map there by contour lines?

A. It is.

Q. And what is that portion colored yellow?

A. That is all that is sixteen feet or over in depth.

Q. And in the channel where you didn't find sixteen feet of depth that yellow color stops, then does it?

A. Yes, sir.

Q. Because the contour lines don't extend across?

A. Yes.

Q. At a point two-thirds of the way to Connors Point from the entry there is apparently a divided channel, is there not?

A. There is, yes.

Q. What was that ground commonly known as; what name in the center of those two channels?

A. It used to be called the middle ground.

Q. Which do you find to be the deeper channel?

A. The southerly channel.

Q. That is the one towards the Wisconsin shore?

A. Yes, sir.

Mr. Gard: We offer in evidence Wisconsin's Exhibit 27.

734 Mr. Hanitch: Does it show the dock line as it exists at the present time, Mr. Banks?

The Witness: No; the dock line has been changed since this map was made.

Mr. Hanitch: In what way has it been changed?

The Witness: It has been extended. It is approximately the same until you get down to Stinson Avenue, and from Stinson Avenue it runs across the Nemadji Point instead of running into that sharp angle which you see opposite Baker Avenue. It runs in a straight line from Stinson Avenue across Nemadji Point and cuts off a small piece which has been condemned by the Government.

Mr. Fryberger: It doesn't show any dock line as to Minnesota Point at all?

The Witness: No.

Mr. Hudson: This space between the two shaded strips that you have stated the water was sixteen feet or more in depth has figures

between those two points. Does that show the depth of water by the soundings that were made between those points?

The Witness: Yes.

Mr. Hudson: And is that the deepest water in Superior Bay between Minnesota Point and Wisconsin Point, at that place?

The Witness: Referring to that time, it was.

The Commissioner: The exhibit is received in evidence. I would like to ask you one question, whether you found your soundings and the Government soundings substantially agreed?

The Witness: They did.

735 Rec'd Aug. 14, 1917. D. E. Roberts, Commissioner.

FEDERAL BUILDING, SUPERIOR, WISCONSIN,  
FRIDAY, August 10, 1917, 10 a. m.

The taking of testimony was resumed before the Commissioner, Hon. David E. Roberts, at the above time and place.

Present: The Commissioner, Hon. David E. Roberts.

On behalf of the State of Minnesota, Hon. Lyndon A. Smith, Attorney-General of the State of Minnesota; Mr. W. D. Bailey, Mr. H. B. Fryberger, and Mr. Louis Hanitch.

On behalf of the State of Wisconsin, Hon. Walter A. Owen, Attorney-General of the State of Wisconsin, Mr. Horatio V. Gard, Mr. Lyman T. Powell, and Mr. T. T. Hudson.

The following testimony was introduced and the following proceedings were had, to-wit:

E. B. BANKS, a witness on behalf of the State of Wisconsin, was recalled, and testified as follows:

Examined by Mr. Gard:

Q. Mr. Banks, did you make a map of the St. Louis Bay for the Northern Pacific Railway Company about the same time you made the Wisconsin Exhibit 27 introduced in evidence?

A. Soon after that; within a year or two after that I did.

Q. How did you come to make that map of St. Louis Bay?

A. Well, that was done for the purpose of locating a proposed Northern Pacific Railway bridge across St. Louis bay from what was then known as West Superior to Rice's Point.

(A large map was marked Wisconsin Exhibit 28.)

736 Witness: I want to correct my statement. There was no West Superior at the time, but afterwards West Superior.

Mr. Fryberger: What is that?

Witness: I say I want to correct my statement with regard to West Superior. There was no West Superior at that time, but afterwards.

Q. But from where West Superior now is; that is what you mean?

A. Yes, sir.

Q. I show you Wisconsin Exhibit 28 and ask you if that is the map you refer to?

A. It is.

Q. Explain how the data for that map was gathered.

A. In the first place, we made a survey of the shore and established triangulation points on Rice's Point and the Main land in Duluth, and from these points we located soundings over the part of the bay that we wished to determine the depth of, and the soundings were located by two sets of instruments—one run by myself and the other run by a man named Dewer. Every sounding was located by two angles from the base line down the shore. We had a boat with three or four men in it, making the soundings and keeping a record of the depth, and each sounding was tied on to the triangulation from the base line.

Q. When was the data gathered from which this map was made?

A. As nearly as I can remember it was in May, 1884. Now it is just possible it was the fall before that, but I think it was in May, 1884.

737 Q. State whether or not the purpose of this map was to form a basis for an application by the Northern Pacific to bridge the St. Louis River.

A. It was.

Q. And do you know whether or not their application was based upon this map?

A. So far as I know it was entirely.

Q. There is a part of this map that is painted a yellowish tint, between Rice's and Connor's Point, and extending on either side. What does that represent?

A. Everything colored yellow is sixteen feet or more in depth.

Q. Had there been any dredging done in that locality prior to that time?

A. No.

Q. Then, that is the sixteen-foot contour line there that marks the outer edge of that yellow coloring?

A. Yes.

Q. Running through a portion of this yellow shading is a broken line, with darts downward, and on those some figures. What is that intended to represent?

A. That is to represent the direction and velocity of the current at the time we made the observation. That was determined from floats which were located at intervals.

The Commissioner: Is the velocity of the current represented on the map?

The Witness: It is in several places.

The Commissioner: How?

The Witness: By figures.

Q. That is per feet per hour?

A. Yes.

Q. The topmost figure is 1440 feet per hour; is that right?

A. Yes, sir.

738 Q. Down a little lower it is 720 feet per hour?

A. Yes.

Q. Down a little lower is 630 feet per hour?

A. Yes.

Q. Down a little lower is 2850 feet per hour?

A. Yes.

Q. And still lower is 2310 feet per hour?

A. Yes.

Q. And still lower 2310 feet per hour?

A. Yes.

The Commissioner: What does that signify in miles?

Witness: The 1440 feet per hour would be a little more than a quarter of a mile an hour. The 1720 would be——

Mr. Hanitch: Is that 1720 or 720?

Witness: 720. 720 would be between one-seventh and one-eighth of a mile an hour. The 1630 would be a little less than a third of a mile an hour, and the 2850 would be a little more than a half a mile per hour; the 2310 would be somewhat less than a half mile per hour.

Q. Mr. Banks, had the Duluth canal been cut at that time?

A. Yes.

Q. How do you account for the current in the lower part there diverging to the left of the yellow portion of the map?

A. Well, of course at this time the lake was lower than the bay and the current would naturally seek the nearest outlet.

Q. And what was that—the Duluth entry?

A. The Duluth entry.

Q. Then you attribute that diversion there from the deep part to the Duluth entry?

A. Yes.

Q. In your soundings did you find what you considered a channel, a river channel, at that portion of the waters?

A. Yes.

739 Q. What is that channel represented by there?

A. By the yellow coloring.

Q. Was the Northern Pacific bridge built on the location that is indicated on this map?

A. It was.

Q. And was the draw, the original draw, located at the place that is indicated on this map?

A. Yes.

Q. How many draws were there in the Northern Pacific bridge when it was first built?

A. One.

Q. And that was on the Duluth side?

A. Yes.

Q. Do you know why it was placed there?

A. On account of its being across the natural channel.

Q. How long afterwards was the draw put in on the Wisconsin side?

A. I do not remember but within a very few years.

Q. Do you know why it was put in?

A. On account of the proposed improvements along the dock line on the Wisconsin side, above the location of the bridge.

Mr. Gard: We offer in evidence Wisconsin Exhibit 28.

The Commissioner: Received.

Q. How far up the waters have you made soundings, Mr. Banks?

A. Do you refer to St. Louis Bay?

Q. Yes.

A. At this time we took soundings very close up to Grassy Point, but they were not within the area required by the War Department and they were not put on the map.

Q. Did you ever take soundings above Grassy Point?

A. I took a large number of soundings above Spirit Lake, near what is called Sabastapool, for the purpose of locating a bridge.

Q. That is about where the Spirit Lake Branch Boat Club  
740 is now?

A. Yes. I prepared for the War Department, for a proposed bridge across at that point, and made soundings about a mile each side. I have no data or map showing that, however.

Q. Have you been familiar with the waters of the St. Louis River above Grassy Point?

A. Yes.

Q. How long?

A. Well, probably thirty years.

Q. To what extent?

A. Well, I built a bridge across the St. Louis River at New Duluth in 1891.

Q. That is, the railroad bridge?

A. Yes, sir. And of course I made soundings for that; and I have been up the river quite frequently on excursions and know the route taken by the boats.

Q. Do you know the route taken by boats, commonly taken by boats, after they go through Grassy Point, going up-stream?

Mr. Hanitch: When do you mean?

Mr. Gard: Any time, and then I will fix the time later.

A. I only know at the time that I have been on the boat going up.

Q. When was that?

A. Well, I frequently went to Fond du Lac on excursions; every year once or twice or three times, from 1890 to 1900, and since that time.

Q. Would your knowledge and experience as an engineer cause you to take some notice of the course that the boats took going up the river?

A. Well, I always try to observe things when I am out on a trip like that.

Q. You are familiar with the government soundings of  
741 the waters above Grassy Point, are you not?

A. Yes, sir.

Q. What maps in particular are you familiar with, the government maps, showing the soundings?

A. Well, the one I have in mind now is a map made by Dever. I think it is dated 1900.

Q. In your experience you have had to locate channels more or less, have you not, of the river?

A. I have done considerable of that work.

Q. Have you prepared a map of the waters above Grassy Point, showing the main channel of the river? (Placing a map before the witness.)

A. This is the Dever map which I refer to, not made by me or any of the soundings made by me. I have, however, taken this Dever map and colored in yellow where I, from my experience, would place the main channel of the river between Grassy Point and Spirit Lake.

Q. And that channel is colored what on this map?

A. Yellow.

Q. Aside from that yellow coloring, is this the Dever map?

A. It is; that and some lines that I put on it afterwards to show the property lines.

Q. That is, the black lines here.

A. The black lines were put on by me to show the section lines and the property lines.

Q. That is, the harbor line?

A. No; the harbor line was on this map when I got it.

Q. Now, in going up the river on the excursion boats, can you indicate what course they took after they would go through Grassy Point, after going by Grassy Point?

742 A. After passing Grassy Point we took a sharp turn to the right and proceeded northwesterly along the westerly shore of Grassy Point and came quite close to the Minnesota shore, within five or six hundred feet, at what was commonly called Millford; then the channel swung more to the south and afterwards approached the shore again near what is now known as Ironton.

Q. You mean the Minnesota shore?

A. The Minnesota shore. The channel, as I remember it, in passing up and down the river, conforms to that part of this map colored yellow.

Q. When did you do that coloring, Mr. Banks?

A. About a year ago.

Q. For the purpose of indicating the main channel?

A. Yes.

Mr. Gard: Mark that exhibit, will you, Mr. Reporter?

(The map was marked Wisconsin Exhibit 29.)

Q. This map has been marked Wisconsin Exhibit 29, has it?

A. Yes.



Q. That is the map that you have been referring to, on which you indicated the channel in yellow shading?

A. Yes.

Mr. Gard: We offer Wisconsin Exhibit 29 in evidence.

The Commissioner: Any objection, gentlemen? If not, the map is received.

Q. You are familiar with the watersheds of rivers in northern Minnesota, are you, Mr. Banks?

A. I am.

Q. From actual observation?

A. Yes, sir.

Q. What brought you in contact with them?

A. I was engineer for a water power company for years and had occasion to look them all up, and estimated all of the drainage areas in northern Minnesota.

743

Q. That is, by field work?

A. No, from recorded maps, government maps. Some particular ones I made actual surveys of, but not all of them.

Q. Did you figure the area of land drained by the St. Louis River?

A. Yes.

Q. What is the area of the land drained by the St. Louis River?

A. Approximately 4,000 square miles.

Q. Does that include to the mouth between Wisconsin and Minnesota Points?

A. Yes.

Q. That includes the Nemadji?

A. Yes.

Q. Did you also figure the area above Thomson or in that vicinity?

A. Yes.

Q. What was the occasion for figuring the area above Thomson?

A. 3,450 square miles.

Q. That is the area above Thomson?

A. Yes, sir.

Q. What was the occasion for figuring that above Thomson?

A. Well, the company that I was connected with was interested more or less with this present water power company; that is, they had considerable controversy with them, and it was necessary for us to know this area in order to deal with them.

Q. It was a company that was in a way a rival of the present water power company?

A. Yes, sir, it was.

Q. Do you know in a general way how much water comes down the St. Louis River past Thomson? First, I will ask you if

744 you know from your own knowledge?

The Commissioner: What does this mean—a month, or a year?

Mr. Gard: Well, any way. I just want to know whether he knows.

A. I have gauged the stream at several times, but only at low water, to determine the minimum flow.

Q. Your object was to determine the minimum flow?

A. Yes.

Q. Why were you interested in determining the minimum flow?

A. The company that I was employed by proposed to turn a certain amount of water into the St. Louis River and take it out again, and it was necessary for us to know the minimum flow in order to determine what we had to contend with. We wished to use a certain amount of the St. Louis River water, and in order to find out how much we could use we had to know the minimum flow, because we assumed the other company was only entitled to the minimum flow at the low stage.

Mr. Gard: I want to show counsel for the State of Minnesota, furnished by Mr. Hawks, a table showing the flow of water. If you have any doubt about it we will subpoena Mr. Hawks.

Mr. Fryberger: Who?

Mr. Gard: Mr. Hawks of the Northern Power Company. That is the table he gave us showing the flow that passed Thomson, as I understand, or passed their dam. (Exhibiting a tabulated statement to counsel for State of Minnesota.)

Mr. Fryberger: Do you offer it?

Mr. Gard: Yes.

Mr. Fryberger: We object to it as immaterial. We do  
745 not object on the ground that you have not called Mr. Hawks, but we object to it as incompetent, irrelevant and immaterial.

The Commissioner: The Commissioner cannot see the relevancy of it, but it is admitted.

Mr. Gard: I will have this marked then.

(The tabulation was marked Wisconsin Exhibit 30 (three sheets).)

Mr. Gard: Will you admit that Mr. Hawks would testify that is the flow of the water that passed their dam?

Mr. Fryberger: Yes, if you say he would.

Mr. Gard: That is what he furnished us. We simply asked him to furnish us a table of the flow, and he furnished us this table.

Mr. Fryberger: All right. We would object to it on the ground that it is incompetent, irrelevant and immaterial.

Mr. Gard: For the purpose of saving Mr. Hawks the trouble of coming over and testifying, it is stipulated that if Mr. Hawks was brought in court he would testify that this table, Wisconsin Exhibit 30, shows the flow of water of the St. Louis River at the Thomson dam.

Mr. Fryberger: We object to it as incompetent, irrelevant and immaterial.

The Commissioner: The exhibit may be received subject to the objection.

Mr. Gard: Now will you make the stipulation there? It was stipulated—

746 The Commissioner: It is stipulated as stated by counsel for the State of Wisconsin, and the exhibit is received subject to the objection made.

Q. I will ask you to examine Wisconsin Exhibit 30, and ask you

if that in substance corresponds with your determination of the minimum flow of that water?

A. Yes.

Q. What is the minimum water flow per second as shown on that sheet?

A. There is one flow as low as 171 cubic feet a second.

Q. What is the maximum?

A. 26,950.

Q. Does the flow of water vary in different years, Mr. Banks?

A. Yes, and different months of the year also.

Q. Where is Thomson dam located, Mr. Banks?

A. It is near the head of the Dalles of the St. Louis River.

Q. How far above Fond du Lac?

A. Well, now, I could not say, but I should say it is four or five miles.

Q. About how much water comes into the St. Louis River below that point?

A. About 550 square miles below the Thomson dam.

Q. Of area?

A. Of area; yes, sir.

Q. What streams principally.

A. Well, there is the Big and Little Pokegama, and the Nemadji, and Bluff and Bear Creek. The Nemadji includes the Copper Creek and Black River.

Q. Red River up this side of Fond du Lac, or Ward Creek?

A. Well, there are a few small streams but the area is small. I have included that in the 500 square miles below the Thomson dam, and then there is about 50 square miles above, to make the  
747 total of 4,000.

Q. The Great Northern Power Company, with which Mr. Hawks is connected, has a dam at Thomson?

A. Yes.

Q. And manufactures power from that dam?

A. Yes, sir.

Q. And supplies the head of the lakes here with power?

A. Yes.

Q. And other places. Do they run on the Range?

A. They are extending a line to the Iron Range now, partly built.

Q. Do you know whether they have developed all of the capacity of the river at that point?

A. They have not.

Q. What portion of it?

A. Oh, not over fifty per cent. That is, I should say, if they can conserve all the water of the St. Louis water shed, they can develop 80,000 horse power.

Q. 80,000?

A. Yes, sir.

Q. Mr. Banks, have you ever made any other tests in the waters of the river, including the base here, to determine the flow of current, than those you have mentioned?

A. Not in the lower river; I have above, at the time that I made

the map for these bridges at New Duluth and at Sebastopol. But this is the only time I have observed the current in the lower river.

Q. Were you here before the Duluth canal was put through?

A. No, sir.

Q. You were not here until after the canal was put through. Do you know what portion of the current is diverted by the Duluth canal?

A. No, I do not.

Q. Do you in a general way?

A. Only theoretically.

748 Q. Have you made any observation, and can you testify, as to whether since the cutting of the Duluth canal, more of the current runs out through that canal or the natural entry?

A. I could not say as to that. My ideas are theoretical only. I never observed.

Q. What do you mean by "theoretical"?

A. Well, I should say that water coming down the St. Louis River between Connor's and Rice's Points would seek the first outlet, because the Duluth entry being nearer the water would tend to seek that outlet rather than one farther away.

Q. It is nearer to the Duluth outlet from Rice's and Connor's Points than to the natural entry?

A. Yes, sir.

Q. About how much nearer?

A. Oh, I should say about two miles nearer.

Q. How far is it, Mr. Banks, from the mouth of the St. Louis River, between Wisconsin and Minnesota Points, to Fond du Lac? I now mean by the river.

A. By the natural channel?

Q. Yes, the natural channel.

A. 22 miles.

Q. That is, by the channel northerly of Big Island?

A. Yes.

Q. By the channel southerly of Big Island it would be shorter, would it?

A. What is that?

Q. By the channel southerly of Big Island it would be shorter?

A. Yes, it would be nearly two miles shorter by that one.

The Commissioner: How does the Nemadji and the St. Louis River compare in size? Which is the larger in size?

Witness: The St. Louis has about eight times the drainage area.

749 The Commissioner: How much in water?

Witness: The total drainage area of the Nemadji is about 460 or 470 square miles, while the area of the St. Louis above the Thomson dam is 3,450. We can assume that the run-off is somewhat in proportion to the area.

The Commissioner: Is the color of the water about the same in the two streams?

Witness: No, the Nemadji is a little more muddy than the St. Louis, because it flows for a long distance through a clay country.

Q. From your observation of the waters between Fond du Lac—and by Fond du Lac I mean the location of the old trading post—and the point between Minnesota and Wisconsin Points, what would you say as to these waters being a river or lake?

A. I have always considered them as a river.

Q. Why?

A. Because there was a well-defined channel for nearly the entire distance.

Q. Was there a current?

A. Yes.

Cross-examination.

By Mr. Fryberger:

Q. Mr. Banks, how long have you lived in Superior?

A. 36 years.

Q. Lived here continuously?

A. Yes, sir.

Q. And of course your interests are pretty well tied up with Superior?

A. Yes.

Q. And have been during all that time?

A. Yes, sir.

750 Q. Did you, Mr. Banks, representing any interest, in Superior, make a survey, extend any lines, through the Carnegie dock and the Zenith Furnace Company dock?

A. Yes.

Q. When did you do that?

A. I could not say exactly, but it was probably two or three years ago.

Q. At the request of whom?

A. The City Commission.

Q. The City Commission of the City of Superior?

A. Yes, sir.

Q. And you had several men with you at the time?

A. Yes.

Q. At the time that you did that, did you run a line across both docks?

A. I ran lines down both docks from the shore, and also made measurements of both docks.

Q. And put tacks in at different places, so you could make your survey?

A. We put in some stakes, yes, and tacks.

Q. And tacks?

A. Yes.

Q. But you personally did not make the marks that now appear on the Carnegie dock, Minnesota on one side of the mark and Wisconsin on the other.

A. I did not, no, sir.

Q. You left nothing but your tacks there?

A. That is all.

Q. Do you recall any of the workmen being about there at the time you were making that survey?

A. Dock men?

Q. Yes.

A. I remember seeing men around there, that is all.

Q. Do you recall talking to the master mechanic of the Carnegie dock at that time?

A. I do not.

Q. Telling him what you were doing?

A. I did not. I think my transit men had some conversation with him.

Q. And informed him that you were ascertaining from  
751 your standpoint the state line?

A. I don't know what he told him. I had no conversation with him myself.

Q. But that is what you were doing from the Superior standpoint, is it not?

A. We wanted to ascertain how much of that dock was on the Wisconsin side of the old channel.

Q. And for the purpose of assessment?

A. Yes, sir.

Q. Assessment of taxes?

A. Yes, sir.

Q. On the coal and on the real estate?

A. That is it exactly.

Q. And you think that was about three or four years ago?

A. Well, I don't think it was four years ago; it was about two or three years ago.

Q. Two or three years ago?

A. Yes.

Q. Now, you spoke about this current, the velocity, that you took down near Rice's Point in this channel. Which way was that current flowing at the time that you took it?

A. Flowing towards the lake.

Q. Did you take it when it was coming the other way?

A. Yes.

Q. Did you preserve the record of it?

A. No, we did not, because it was so slight that we did not think it would have any effect on the structures that we proposed to put up.

Q. You took it just once?

A. No, we took the current going down a number of times and made an average of the velocity.

Q. And you think you took it in May?

A. Well, I say I don't know whether it was in May or whether it was the fall before that.

Q. Well, your best recollection is it was in May?

A. Yes.

752 Q. And when we usually have the highest water of course in the St. Louis River, in the spring of the year?

A. Well, there is more water coming down in May than there is later, but the water in the lake and bay is not as high as it is later.

Q. Mr. Banks, at times is it not a fact that the current is very strong setting in from the lake and going up towards Rice's Point, at that point?

A. There is a current setting up towards Fond du Lac of course.

Q. Yes; and at times it is very strong, is it not?

A. Yes.

Q. When there is a big northeast wind?

A. Well, comparatively strong, yes.

Q. You did not take any of the measurements at that time?

A. No; we observed that it did go up stream at times.

Q. The velocity that you ascertained to exist there indicated a very sluggish current, did it not, for a river? A quarter of a mile an hour is a very sluggish current for a river?

A. That is a small velocity, of course.

Q. The Mississippi averages something like four miles an hour, does it not?

A. I do not think so.

Q. Are you quite sure about that?

A. There may be narrow places in the river where the rate would be about that, but that is a very great velocity for a stream—four miles an hour.

Q. There are plenty of places they navigate on the Mississippi where the velocity is that great; isn't that true?

A. Well, I am not familiar with that.

Q. You are not familiar with that?

A. No.

753 Q. Now, you stated that your only experience, as I understood it, with the navigation of the upper St. Louis Bay above Grassy Point, was the excursions that you had taken up there and also the work that you had done with reference to the construction of some bridges. Is that true?

A. That is true.

Q. What bridges did you build or have anything to do with building above Grassy Point?

A. Well, I built a bridge across at New Duluth in 1891 or 1892; I think it was 1892. That was built for what was then known as the Duluth & Winnipeg Railroad.

Q. What has become of that bridge?

A. It is down here in Whitney's yard.

Q. Taken down?

A. Yes, sir.

Q. Dismantled?

A. Yes.

Q. Did you build any other bridge?

A. No. I made a survey for another one at Sebastopol.

Q. Was that ever constructed?

A. It never was built; no, sir.



Q. And that is your only experience with the soundings at those points?

A. Yes, sir.

Q. Those two. Now, with reference to your navigating the St. Louis river, do you recall who the captains of the boats were on whose boats you *rode* at that time when you went up on the excursions?

A. No, I did not know any of them.

Q. None of them?

A. Except Morrison. I remember Dave Morrison as being one of them.

Q. Where is he?

A. Why, he was here in town the other day. I do not know where he is now.

754 Q. That is the only one?

A. The only one that I can remember.

Q. Now, did you never go up the south channel, what is known as the channel south of Big Island?

A. I have been through there, yes, on small boats.

Q. You have been through there?

A. Yes.

Q. About how often?

A. I don't think I ever went through there but once.

Q. On an excursion?

A. I could not say what it was. I know we went up through that south channel once.

Q. Well, are you familiar with the fact that in the early days that was the channel that was most used for navigation purposes?

A. My recollection is that it was not used.

Q. Did you ever hear that?

A. No, I never — it.

Q. You are familiar with the Bayfield chart, of course?

A. I have seen it.

Q. Do you know that the only soundings that are given are through that channel, in that locality?

A. I did not know that.

Q. You did not know that?

A. No.

Q. Did you know that the Bayfield chart was the only chart that the navigators used here or had until the Meade map was made?

A. I did not know that.

Q. You did not know that?

A. No.

Q. Well, did you know that the Merritts and the Howards navigated that stream, run boats up and down there?

A. No, I did not.

Q. You never heard that?

A. No.

755 Q. Did you never hear that Alfred Merritt was master of a vessel for years here?

A. No.

Q. You knew him, did you not?

A. I knew him by reputation only, not personally.

Q. Did you know B. F. Howard?

A. No.

Q. You heard of him of course?

A. Yes.

Q. Knew he was a boat man.

A. Well, I don't remember that I do.

Q. How about Mr. McManus that lived here?

A. McManus?

Q. McManus; did you ever hear of his running a boat as a pilot up the river?

A. No.

Q. Well, did you have sufficient information of the channels of that river to run the boat yourself?

A. No.

Q. You do not claim that?

A. Oh, no.

Q. In going up that south channel, do you know how you ran after you left Grassy Point?

A. No, I don't remember. I know we went through the south channel, but I do not know how we got to it.

Q. The water is very deep in that south channel, is it not?

A. It is in places; yes, sir.

Q. Even deeper than it is in what is known as the north channel; isn't that true?

A. Well, I could not say as to that.

Q. And the velocity of the water is very strong through that south channel, and always has been, during your time; isn't that true?

A. No, I am not familiar with that. I always went the other way and never observed it.

756 Q. Not familiar with it?

A. No, sir.

Q. As a matter of fact, from your own knowledge, all you know about which channel was used was when you would be on the boat; isn't that true?

A. That would be all.

Q. When you would make these excursions?

A. Yes, sir.

Q. You were not on engineering business at that time, of course?

A. No.

Q. You were with your friends, I suppose, going up there for a picnic, weren't you?

A. That is all.

Q. And you were not assisting the pilot or consulting him as to where the channel was?

A. No.

Q. Now, calling your attention to Wisconsin Exhibit 29, you made none of the soundings on that map?

A. No.

Q. And this strip colored yellow here, you have simply colored where you found deep water?

A. Yes, sir.

Q. From the map?

A. Yes.

Q. You don't know whether the measurements from the shore are correct or not, except what appears from the map, do you,—of your own personal knowledge?

A. I do not, no.

Q. And this does not indicate, this part colored yellow, that all the water is at least 16 feet deep along that colored line, does it? That was not your purpose in making the map?

A. It is not possible to determine the exact elevation of that dotted contour line, but I assume it was the sixteen foot line.

Q. I want to call your attention down here to this bar, down here at the most westerly black line on the Minnesota side, right in the middle of your yellow channel; it is marked eight feet six 757 inches, isn't it, or six-tenths, right in the middle of your channel?

A. I think that is 18.6.

Q. You think it is?

A. Yes. The "1" is partly covered up with the black line. It is 18.6. You can see part of the "1" there.

Q. Well, you may be right. Now at the time that this map was made there had been some dredging done there, had there not, on that bar?

A. No.

Q. Well, are you sure about that? This is 1900.

A. No; the surveys were made before the map was dated, you understand.

Q. Yes.

Mr. Bailey: '95 and '96 though.

Q. You do not mean to say, do you, Mr. Banks, with reference to that part I called your attention to, that prior to 1893 there was any such depth of water at that black line I have called your attention to, the most westerly line I should say on this map, or is shown on this map?

A. Why, I assume that was the correct depth.

Q. You understand that Meade's chart shows no such depth of water at that point?

A. I don't think it is possible to locate the two points, to identify the two points on the two plats.

Q. Well, take it up around this island that is shown right off the word "slip," marked in black; I take it that was marked by you?

A. Yes.

Q. And the most westerly word—you have two there?

A. Yes.

758 Q. There is a little island shown right at the end of that slip. Now on the Meade chart it shows a much greater depth of water than is shown on this chart, doesn't it?

A. I have not compared the two.

Q. Well, let us look at the Meade chart. Now calling your attention to Minnesota Exhibit 1. I just want you to examine that chart a minute and see if you find any such depths of water on the Meade chart, at that point, as you have on this map, Wisconsin Exhibit 29.

A. It is not possible to locate that point on the two maps.

Q. Well, right in that channel, don't you find 7 feet right through there, 8 feet, 9 feet, such depths as that? There isn't one at that point—there is not any such depth as you have, eighteen feet?

A. The way it reads is 29, 19, 12, 15, 24, 29, 19, 21, 18, 15, 20, 21, 16, 22, 16, 25.

Q. Well, you are going away down the channel.

A. No, I am all inside of the dock line.

Q. Yes, but I am not asking about that. There are two soundings of 8 feet, are there not?

A. Yes, but that is outside of the channel. The channel shows 19, 12, 15, 24.

Q. Oh, that is not out of the channel.

A. Yes, it is; I beg your pardon.

Q. Have you got any 12 feet in the channel in your map?

A. I don't know.

Q. Well, just look and see. Just examine your map and see if you have any twelve feet there.

A. No.

Q. No. 17 is the lowest that you have on this Exhibit 29,  
759 isn't it?

A. At what point?

Q. At any point there.

A. There is 16.

Q. Where is 16?

A. There. (Pointing.)

Q. That is half a mile from that point, isn't it?

A. No.

Q. A quarter of a mile. I am talking about this bar down here.

A. 18, 17, 9, 16.4.

Q. Who was the man that made this Exhibit 29?

A. Dever?

Q. Yes, Dever.

A. He is United States Assistant Engineer.

Q. And when were the surveys made?

A. It states on the map. I don't remember. Made prior to 1900, however, before there was any dredging done.

Q. Before there was any improvement done?

A. Any dredging.

Q. Well, any improvement done at that point?

A. Yes, sir.

Examined by Mr. Bailey:

Q. Do you know whether there had been any work done there by the Zenith Furnace Company or not, at that time, or by its predecessor?

A. No; to the best of my recollection there had been no dredging above Grassy Point.

Q. Well, I said work done—by any of those companies or their predecessors. You do not know that, do you?

A. I do not know, no.

By Mr. Fryberger:

Q. Now, as I understand it, when the boats took the south channel you don't know how they went after they left Grassy Point going up?

A. I could not say as to that.

Q. You never had anything to do with staking out any channels there for the boats to use, putting in temporary buoys?

760 A. Not at that point.

Q. Above Grassy Point I mean.

A. No.

Q. And the only thing you know about the matter of the channel, that is, the channel commonly used by the boats in the early days, before this channel was dredged by the government, is these few trips that you made on excursion boats?

A. Yes, sir.

By Mr. Bailey:

Q. Prior to the time you did the work on this map yourself, you did not pay any particular attention to channels up there, did you?

A. No.

Q. So, you would hardly remember at this time whether the boat on which you just went on an excursion up there, along in the '90's, went around a curve or went a straight line?

A. I know they went around pretty close to the Minnesota shore, and I know we used to land at Spirit Lake.

Q. Sure you landed at Spirit Lake.

A. There was an old wharf there.

Q. I am not asking you whether you went north of Big Island or south, but I say from Grassy Point up. I say you would not remember now, just being on an excursion, and before your attention had been called to soundings or anything else, you would not remember now whether you took a course in one direction or forty rods from it, would you?

A. Well, I remember that we hugged the Minnesota shore pretty close.

Q. As a general proposition you hugged the Minnesota shore?

761 A. Yes.

By Mr. Fryberger:

Q. Let me ask you this: Do you think that from your limited personal experience there you are as competent to testify as to those channels as the men who actually ran the boats, such as the Howards

and the Merritts and the McManuses and the Nortons, or men of that kind?

A. Why, certainly not.

By Mr. Hanitch:

Q. Mr. Banks, looking at Wisconsin Exhibit 28, I notice that there is a line marked here crossing your blue line—is that what you call that blue line?

A. Yellow.

Q. Or crossing your yellow line, which is marked the line taken by sawmill drift. What did you mean by that?

A. Well, we observed the drift coming down the stream and located the general direction that it took.

Q. Now, that took a different direction from the buoys which you located, did it not?

A. Slightly different. The sawmill drift was entirely on the surface, and our float was submerged.

Q. Your float was submerged?

A. Yes.

Q. How deeply did you submerge it?

A. We had a barrel loaded with sand, and with a flag on it; so it must have gone down two feet below the surface at least. The sawmill drift would show on the surface, but our barrel gave the velocity and the direction below the surface.

Q. Below the surface?

A. Yes, sir.

762 Q. You think your buoys were down a couple of feet?

A. Well, it was a barrel partially loaded, so that it was almost submerged.

Q. Almost submerged?

A. Yes.

Q. I notice at the westerly line of your yellow markings, or to the westerly side of Minnesota Point—or Rice's Point—your current seems to pass out of the yellow or deep water?

A. Yes, it does.

Q. Now how do you account for that, Mr. Banks? As I understood you, you accounted for its passing out of the yellow mark and towards the lake because of the outlet at Duluth. Now how do you account for its passing out when it is in St. Louis Bay?

A. Well, the only thing I can think of in that respect is that we deposited this barrel above the line of the proposed draw, and all we were particularly interested in was to get the direction and velocity of the current in the main channel. Now I presume that we deposited this barrel at a certain distance above the line of the proposed bridge and that it took the course that is shown on this map. Now I don't remember all of the details.

Q. Well, at that point which is practically parallel with the line taken by the sawmill drift, isn't it?

A. It appears to be so, yes.

Q. Now, Mr. Banks, why did you limit your yellow space, or stop

your yellow space at the point you did above Rice's Point in St. Louis Bay?

A. Well, I attempted to show that part of the bay where  
763 there was 16 feet or more of water.

Q. The deep water from the point where you ended your yellow markings seems to pass down towards the center of St. Louis Bay, does it not?

A. To a short distance.

Q. And then all of these channels seem to fade out, do they?

A. Yes, they fade out.

Q. What course, as you remember it, did the boats take when they went through St. Louis Bay?

A. Well, I don't remember about that.

Q. You don't remember where these excursion boats went?

A. No. There had been more or less dredging done in that territory, and I do not remember back of the time when it was dredged.

Q. Would you say that any of these lines that you have marked here with yellow—would you say they had been dredged?

A. Do you mean since that time?

Q. Well, hadn't you passed up the St. Louis Bay prior to the time you made this map?

A. Oh, I do not think I had.

Q. This map was made when?

A. Back in 1884.

Q. Do you not think you ever went up St. Louis Bay, then, before 1884?

A. I do not believe I did; I do not remember it.

Q. Now, Mr. Banks, did you know George R. Stuntz in his lifetime?

A. No, sir, I never met him.

Q. Never met?

A. No.

Q. Looking at Wisconsin Exhibit 5, Mr. Banks, you will notice  
there is a strip there between lines and it is marked "Main channel  
of St. Louis River." What would you say as to whether the  
764 engineer making this plat undertook to definitely locate  
that channel by measurements, or not?

A. There is no evidence on the map that he located a channel.

Q. The evidence on the map showing definite location simply relates to the island, does it not?

A. Yes, sir.

Q. That is, all lines are tied to the island?

A. Yes.

Q. And none are tied to the channel?

Attorney-General Owen: We do not claim that is a survey for the purpose of locating the channel.

Mr. Hanitch: Oh, pardon me, I thought you did.

Attorney-General Owen: Why, no; just a survey of that island.

Q. That map would indicate that that was just a detail that he put in without measurement, would it not?



A. Yes.

Q. Mr. Banks, there was quite an effort made at the time of the building of what is known as the St. Louis Northern Pacific railroad Bridge to have a swing or a draw span on the Wisconsin side, was there not?

A. There was either at that time or soon after.

Q. Did you participate in that?

A. No, I did not.

Q. Did you know anything about what the people of Superior did there, to use as evidence for requiring the span?

A. No.

Q. Don't you know that they brought a dredge there and dug out an opening in the bed of the river to indicate that there was a depth there that required a span?

A. I heard that they did, but I did not know anything about it.

Q. You don't know anything about it?

A. No.

765 Q. In your soundings did you ever discover that?

A. No, sir.

Q. An artificial hole.

A. No, sir.

By Mr. Fryberger:

Q. I just want to ask you one question about this man Morrison. What is his first name?

A. Who?

Q. This man Morrison that you said ran a boat. You said you remembered one of the captains' names.

A. Dave Morrison.

Q. Dave Morrison. What boat did he run?

A. I don't remember the name of the boat.

Q. You don't know what draft the boat had?

A. No; it was a boat very similar to the boat that runs up there now.

Q. Drawing 5 or 6 feet?

A. I don't know, but I should think it was more than that.

Q. But you don't know?

A. No, I do not know.

Examined by Mr. Bailey:

Q. Mr. Banks, you say that this Exhibit 30, that you introduced here, shows that at times there was as high as 24 to 26 thousand cubic feet or cubic second feet of flow at the Thomson dam?

A. Yes.

Q. When there was such a flow as that in the St. Louis river up there, what velocity would you say there would be per hour?

A. At what point?

Q. Well, up near the Thomson dam, but in the natural channel.

A. That would depend on the width of the river and the depth of it.

Q. Well, up in that vicinity.

A. I don't know how wide the river is.

766 Q. You are familiar with the river up there, are you not?

A. Oh, in a general way.

Q. Well, take it in general, down between that point and Fond du Lac. Can you give us some idea about how many miles per hour the flow would be?

A. That is a rapid flow; there would be a great velocity with a very small flow. The velocity would not depend on the amount of water; it would depend on the fall, per 100 feet or mile—more on that than it would on the amount of water. You see there is 5 or 6 hundred feet drop in that district.

Q. Yes. Do you know how far it is from the Thomson dam down to Fond du Lac, in the natural channel?

A. Not exactly.

Q. What?

A. No, I do not.

Q. Well, can't you give us some idea of about how long?

A. I said it was three or four miles, but I would not be certain as to that.

Q. At least that?

A. I never measured it, and never observed it on the map.

Q. Well, I say can't you give us some idea as to about what the velocity of the water would be there when there was such water as that going through?

A. There would be places where there would be a perpendicular fall. Now I could not make any general statement of that kind.

Q. What I am trying to get at is about what the rate per hour would be suppose you put in a barrel at the Thomson dam and it came down to Fond du Lac. Could you give us some idea  
767 what it would be with a flow of water like that?

A. No, I could not.

Q. Well, it would be a great many miles per hour, probably 7 or 8?

A. Yes, it would be very swift.

Q. Very likely more than that?

A. Yes.

Q. What?

A. Yes. Given the depth of the stream and the cross-section and the amount of water flowing, I can tell you the velocity, but in a fall like this it would vary; some places it would be perpendicular and other places it would be—

Q. I am trying to get some sort of an average between Thomson dam and Fond du Lac and the natural channel in a flow such as exists. Probably be 10 or 12 miles an hour?

A. I do not doubt it would be 10 or 12 miles an hour.

(A short recess was here taken.)

Attorney-General Owen: May it please the Court, the other day we introduced Wisconsin Exhibits 12, 13, 14, and 15, which were original records of the Land Office of the State of Wisconsin. It

was then understood that we might make photographic copies, and substitute the copies for the original records. I now offer the photographic copies of such original records, and ask that they be marked exhibits in lieu of the originals.

(The photographic copies were marked by the reporter Wisconsin Exhibits 12, 13, 14, and 15, respectively, the same numbers as borne by the originals.)

Attorney-General Owen: We asked Mr. Lampert, Assistant Secretary of the State Land Department, of Madison, to furnish us with a list of lands that had been granted to the State of Wisconsin by the United States Government in town 48 range 15, town 49 range 14, and town 49 range 15. His information seemed to be erroneous, and it was agreed that he should return to his office and send us a list. I now have that list and I would like to read it into the record. It is as follows:

Following lands within the townships named have been conveyed by patents from the United States to the state:

Description.	Sec.	Town.	Range.	Acres.	Hundredths.	Date of patent from U. S. to State.
Lot 6.....	9	48	15 W.	9	05	Jan. 25, 1872
Lot 4.....	11	48	15 W.	13	40	Jan. 25, 1872
S. E. S. E.....	21	48	15 W.	40	..	Jan. 25, 1872
N. W. N. W.....	27	48	15 W.	40	..	Jan. 25, 1872
N. E. S. E.....	35	48	15 W.	49	..	Nov. 14, 1881
Lot 2.....	30	49	14 W.	22	40	May 15, 1862
Lot 2.....	24	49	15 W.	48	..	Jan. 10, 1880
Lot 3.....	25	49	15 W.	25	60	Jan. 25, 1872

The lands described below were claimed by the state as swamp under act of September 28, 1850. The claim was recognized by the United States, but before selections were made the lands were conveyed by the United States to private parties.

Therefore, other lands, in lieu of these, were granted, and on November 21, 1881, conveyed to the state by patent, pursuant to acts of Congress approved March 2, 1855, and March 3, 1857.

Description.	Sec.	Town.	Range.	Acres.	Hundredths.	Date of patent from U. S. to State.
Lot 3.....	10	49	13 W.	18	10	Nov. 21, 1881
Lot 1.....	29	49	13 W.	1	65	Nov. 21, 1881
Lot 3.....	29	49	13 W.	39	07	Nov. 21, 1881
Lot 4.....	29	49	13 W.	29	50	Nov. 21, 1881
Lot 5.....	29	49	13 W.	44	60	Nov. 21, 1881
Lot 6.....	29	49	13 W.	39	49	Nov. 21, 1881
Lot 1.....	30	49	13 W.	55	60	Nov. 21, 1881
Lot 1.....	31	49	13 W.	42	05	Nov. 21, 1881
Lot 9.....	31	49	13 W.	44	30	Nov. 21, 1881
Lot 10.....	31	49	13 W.	29	60	Nov. 21, 1881
Lot 1.....	32	49	13 W.	17	85	Nov. 21, 1881
Lot 2.....	33	49	13 W.	34	88	Nov. 21, 1881
Lot 4.....	33	49	13 W.	67	80	Nov. 21, 1881
Lot 2.....	34	49	13 W.	65	27	Nov. 21, 1881
Lot 3.....	34	49	13 W.	53	80	Nov. 21, 1881
Lot 4.....	34	49	13 W.	52	50	Nov. 21, 1881
Lot 5.....	34	49	13 W.	28	47	Nov. 21, 1881
Lot 1.....	35	49	13 W.	52	..	Nov. 21, 1881
Lot 2.....	35	49	13 W.	53	67	Nov. 21, 1881

770 E. B. BANKS, Recalled, testified as follows:

Examined by Mr. Fryberger:

Q. Mr. Banks, as a matter of fact, you are mistaken about even Dave Morrison being a man that ran a boat up the river, are you not?

A. No.

Q. As a matter of fact he never ran a boat up that river, did he?

A. He appeared to be in charge of the boat.

Q. Well, wasn't he merely a crier for the selling of tickets?

A. Well, I always supposed he was the captain. I may be wrong.

Q. He never was pilot and never was in the wheel house? He runs a hotel over here, doesn't he, at the present time?

A. I don't know what he does. I know he was on the boat and seemed to have charge.

Q. You never saw him giving orders at the wheel, did you?

A. No, never observed whether he did or whether he did not.

Q. Well, do you feel that he ever ran a boat or ever had papers or knew anything about running a boat?

A. I don't know anything about it.

Q. You remember he was on the boat you were on?

A. I saw him on the boat, and I supposed he was captain. I don't know of course.

Examined by Attorney-General Owen:

Q. Did he have the reputation of being captain at that time?

A. Why, I think so.

771 Q. Commonly reputed to be a navigator on the bay?

A. Why, I have heard him called Captain Morrison. I don't know whether he is entitled to it or not.

Q. He went by the name of Captain Morrison?

A. I heard him called Captain Morrison.

Attorney-General Owen: That is all.

Attorney-General Owen: Now we have here, gentlemen, a number of maps, certified by the War Department. The maps are in one bundle, tied together, and there is one certificate on them. I thought that we could offer the bundle as one exhibit and then sub-number the various maps.

Mr. Fryberger: To save time, suppose you let that go until after the adjournment, and we will come over here about one o'clock and go over them. Otherwise we will have to take time to go over them. Can you do that?

Attorney-General Owen: We are going to introduce them anyway.

We might identify them in the manner I have suggested.

Mr. Fryberger: We do not know what objection we are going to make until we look them over.

Attorney-General Owen: The reporter might mark these.

(The certificate attached to the bundle of maps produced was marked Wisconsin Exhibit 31, and the maps covered by said certificate were marked Wisconsin Exhibits 31-A to 31-L, inclusive, respectively.)

772 G. A. TAYLOR, being duly sworn as a witness on behalf of the State of Wisconsin, testified as follows:

Direct examination.

By Mr. Gard:

Q. Mr. Taylor, you reside at Duluth, Minnesota?

A. Yes, sir.

Q. How long have you resided at Duluth?

A. My residence has been there since 1895.

Q. And what is your present official position?

A. United States Assistant Engineer.

Q. Under Major Lockwood, who testified yesterday?

A. Colonel Lockwood.

Q. Colonel Lockwood, I beg pardon.

A. Yes, sir.

Q. How long have you been Assistant Engineer?

A. Two years.

Q. What position did you occupy prior to that time?

A. I was junior engineer from 1901 to 1915, and inspector from 1893 to 1901.

Q. As inspector what do you mean—inspector of dredging?

A. I was chief inspector of dredging from the spring of 1897

to 1901, and prior to 1897 I was inspector of dredging and *and* breakwater construction.

Q. What were your duties as inspector of dredging?

A. I had charge of the operation of dredges on different work about the harbor, that is, so far as related to the depth of digging and where the digging was done, and so forth.

Q. Was the dredging done by contract?

A. Yes, sir.

773 Q. And under the government inspection?

A. Yes, sir.

Q. And you were representing the Federal government in the inspection work?

A. Yes, sir.

Q. Then when did you first become connected with the government engineer's office at this place?

A. In June, 1893.

Q. Have you been connected with it continuously since that time?

A. Practically. There were times, up to 1896, when there was no appropriation made, and no work in progress, that I was not employed. Since 1897 I have been continuously employed.

Q. At what stage was the dredging in the harbor here at the time you became connected with the office, Mr. Taylor? That is, you may state in a general way that dredging had been done before that time.

A. We had what was known as the 16-foot project for channels in Superior Bay and St. Louis Bay and up the river; I cannot say just where the limits of that project went; and the channel in Superior Bay and the north channel in St. Louis Bay had been maintained to a depth of 16 feet, for various widths.

Mr. Fryberger: As I understand it, prior to the time that you came here?

Witness: Yes, sir; at that time anyway. I do not know just what time that project was adopted.

Q. Now let me see if I understand you. A 16-foot channel had been dredged through the Superior Bay and the northerly channel to a depth of 16 feet had been dredged through the St. Louis Bay; is that right?

A. That is as I understand it, yes.

774 Q. What dredging has been done since you became connected with the office in the waters of St. Louis River and St. Louis Bay and Superior Bay?

A. The project has been enlarged to 20 ft. depth in navigation. The waters or channels in Superior Bay and St. Louis Bay and St. Louis River as far as a little above the outlet of Spirit Lake have been deepened to 20 feet or more. We aim to leave 22 feet for 20-foot draft boats.

Q. When was the channel dredged, or when was the dredged channel made above Grassy Point?

A. What is known as Minnesota channel, St. Louis River, or the present dredged channel was dredged between the years 1900 and 1902.

Q. You include those years, do you?

A. Yes, sir.

Q. That is, it was 1900 to 1902 inclusive?

A. Yes, sir.

Q. Did you have charge of that dredging above Grassy Point?

A. Some of it.

Q. To what extent did you have charge of it?

A. I had charge of all the dipper dredge work that was done up there. The pilot cut as we call it, the first cut through, was made with a hydraulic dredge which belonged to C. S. Barker Company.

Q. What they call a sand sucker?

A. Yes, sir. That dredge was under the direct charge of Mr. H. H. Wadsworth at that time.

Q. Who was connected with the Engineer's office?

A. Yes, sir.

Q. Now, that sand sucker ran over this channel and dredged it out to what depth, approximately?

A. 22 feet.

775 Q. Did the sand sucker dredge it out that deep?

A. As far as they went; they aimed to leave full depth for the width they went; only took one cut through most of the way.

Q. They dredged full depth?

A. Yes, sir.

Q. But did not dredge the full width of the channel?

A. No, sir, they did not.

Q. Where did they throw the material?

A. They discharged it inside of the established harbor line, adjacent to the work that they were doing.

Q. Did they put any of it in the old channel that was found there at that time?

A. Yes, sir.

Q. Considerable of it went in the old channel, didn't it?

A. They discharged enough into the upper ends of these channels as we crossed them to confine the current to the new channel.

Q. That is, wherever you crossed the old channel you tried to fill up the upper end of that channel to keep the current from continuing in the old channel; is that right?

A. Yes, sir.

Q. The dredged channel crossed the old channel at a number of places, didn't it?

A. Yes, sir. I might say that it sometimes crossed it and sometimes followed it for short distances, but practically crossed it.

Q. There is not any place that it went exactly at right angles with the old channel, is there, for any considerable distance? What is the fact?

A. Well, it crossed it once just above Grassy Point, practically at right angles; it was not exactly of course, but practically.



776 Q. There are a great many maps in the files of the Engineer's office at Duluth with which you are connected, are there not?

A. Yes, sir.

Q. Those maps are made by the engineers or people under them, in the course of their business, are they not?

A. Yes, sir.

Q. You made copies of some of those maps at the request of the State of Wisconsin, did you not?

A. Yes, sir.

(A map was marked Wisconsin Exhibit 32.)

Q. I show you Wisconsin Exhibit 32, and ask you if that is a copy of a map that is on file in the office of the District Engineer at Duluth?

A. It is.

Q. Did you make that copy?

A. I did. It was made under my direction.

Q. Yes, that is what I mean. You know that it is a copy of the map?

A. I have compared it.

Q. The inscription is "Sheet No. 1 St. Louis Bay and River; Scale 16 feet to 1 inch," is it not?

A. Yes, sir.

Mr. Powell: Is there any date on it, Mr. Gard.

Mr. Gard: We offer in evidence Wisconsin Exhibit 32.

Mr. Fryberger: No objection.

The Commissioner: The exhibit is received.

Q. Mr. Taylor, I find no date on this Wisconsin Exhibit 32. Can you?

Mr. Bailey: 1873.

Mr. Hanitch: Soundings of 1873.

Q. Can you tell me approximately the date that it was made?

777 A. I judge from the appearance of it it was made prior to 1894, made between 1884 and 1890 I would judge.

Mr. Fryberger: That is the map itself, Mr. Taylor?

Witness: Yes, sir.

Q. And the map shows when the soundings were taken from which it was made?

A. Yes, sir.

By Mr. Hanitch:

Q. What do you mean by that—that the soundings were in 1873?

A. No, sir. May I see that map a minute? (Referring to the map.) The soundings are from the survey made in 1884 and 1885. They are reduced to low-water datum of 1873.

By Mr. Gard:

(A map was marked Wisconsin Exhibit 33.)

Q. I will show you Wisconsin Exhibit 33 and ask you if that is a copy of a map that is on file in the office of the District Engineer at Duluth?

A. It is.

Q. You made the copy, or it was made under your direction?

A. Yes, sir.

Q. It is a true copy, is it?

A. Yes, sir.

Q. This map is inscribed, "St. Louis River from its mouth in Superior Bay to the head of St. Louis Bay, surveyed in 1861," is it not?

A. Yes, sir.

Q. Tell me in a general way just what this map is, that is, from what it was taken and how it was made.

A. As far as our office records show, it purports to be a tracing of the originally made map.

Q. By whom?

A. I do not know who made the tracing.

778 Q. Probably by one of the engineers or some one under his direction?

A. I presume so, otherwise it would not be on file in the office, in all probability.

Mr. Gard: We offer in evidence Wisconsin Exhibit 33.

The Commissioner: Received.

(A map was marked Wisconsin Exhibit 34.)

Q. I show you Wisconsin Exhibit 34 and ask you if that is a copy of a map on file in the office of the District Engineers of Duluth?

A. It is.

Q. This is known as the Farquhar map, is it?

A. Yes, sir.

Q. It is inscribed "Map of the Bay of Superior from a Survey made under the Direction of Major F. U. Farquhar, Corps of Engineers, U. S. A."?

A. Yes, sir.

Q. In 1873?

A. Yes, sir.

Q. This map shows the location of the old dike, does it not, Mr. Taylor.

A. Yes, sir.

Q. And I call your attention to the fact that it shows the Nemadji or Left-hand River; does it not?

A. Yes, sir.

Q. It is called Nemadji or Left-hand River on this map, isn't it?

A. Yes, sir. The word Nemadji means left-hand.

Mr. Gard: I offer in evidence Wisconsin Exhibit 34.

Mr. Fryberger: No objection.

The Commissioner: Received in evidence.

(A map was marked Wisconsin Exhibit 35.)

Q. I will show you Wisconsin Exhibit 35, Mr. Taylor, and ask you if that is a copy of a map on file in the Duluth office of the District Engineers?

A. It is.

Q. That map shows the proposed new or dredged channel as distinguished from the old channel, does it not?

A. Yes, sir.

Mr. Fryberger: What year is that?

Mr. Gard: It is inscribed "Map of Duluth in Superior Harbor district No. 1, showing proposed dredging of 20 ft. channels referred to in advertisement and specifications issued by Major Clinton B. Sears, Corps of Engineers, U. S. A., under date of December 16, 1896," is it not?

Witness: Yes.

Q. I will ask you if that proposed Minnesota channel was ever dredged as it is shown there?

A. No, sir, it was not.

Q. Do you know why?

A. Yes, sir.

Q. State why.

A. It was decided that the money could be spent to better advantage, so far as commerce was concerned, on other parts of the harbor.

Q. Has the Superior channel been dredged substantially as shown on that map?

A. The Superior front channel we call it; yes, sir.

Q. The Superior front channel?

A. Yes, sir.

Q. And the other one has never been made—that is, the channel?

A. The Minnesota Point channel?

Q. The channel named on this map "Proposed Minnesota Point channel."

A. It has never been dredged.

Mr. Gard: We offer Wisconsin Exhibit 35 in evidence.

Mr. Fryberger: No objection.

The Commissioner: The map is received. We will adjourn until two o'clock.

Mr. Bailey called attention of counsel to the fact that he had discovered among his papers two tax receipts which he had intended to introduce with other receipts of a similar character at the time that Mr. Fulton was on the stand. He stated he desired to offer the receipts at this time as Minnesota Exhibit 51. The receipts were so marked, there being no objection to their reception in evidence at this time, and the same are in the words and figures following to-wit:

## MINNESOTA EXHIBIT 51.

*Personal Tax Receipt, 1914.*

STATE OF WISCONSIN,  
*Douglas County:*

\$721.25

No. 879 F.

CITY OF SUPERIOR, WIS., Jan. 23, 1915.

Received of Zenith Furnace Co. Seven Hundred Twenty one & 25  
 Dollars, in full payment of all Personal Taxes charged on Tax Roll  
 of above City for the year 1914.

2.

Personal tax.	Valuation.	General tax.	Sewer dist. No. 6.	Total taxes.
9 Ward	....	596.25	125.00	721.25

G. W. KANE,  
*City Treasurer.*

(Stamped:) Paid under Protest. Ernest Rickett & Co. Pro-  
 duced at Audit.

781

*Income Tax Receipt.*

STATE OF WISCONSIN,  
*Douglas County:*

\$34.50.

818

CITY OF SUPERIOR, WIS., Jan. 23, 1915.

Received of Zenith Furnace Co. Thirty Four & 50/100 Dollars  
 In full payment Income Tax as follows:

Cash .....	\$ .....
Personal Property Tax Receipts.....	34.50
Total .....	\$ 34.50

G. W. KANE,  
*Treasurer.*

(Stamp:) Ernest Rickett & Co. Produced at Audit.

(A recess was here taken until two o'clock P. M.)